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ABSTRACT

These eight papers focus on the changing role of the community college. Topics include: (1) the need for change in the way community college faculty members perceive themselves; (2) current social problems and trends and the ways in which community colleges can help to shape the future of society; (3) how the community college can become more responsive to the needs of community residents; (4) the instructional clinic approach to faculty development; (5) the Learning Center at Miami-Dade Community College and its approach to teaching basic skills; (6) different ways of implementing the concept of cooperative education; (7) the barriers to effective instructional change and ways of overcoming them; and (8) the past, present, and future roles of the community college. Contributors include: Dr. Arthur Cohen, Dr. James Dator, Peter P. Smith, Dr. Michael H. Parsons, Dr. Jeffrey M. Elliot, Dr. Sheila Gordon, Dr. James O. Hammons, and Dr. Edmund Gleazer. (DC)

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COLLEGE PERSPECTIVE '76

June 14 - 17, 1976

A PRODUCTIVE PAST :
A PERPLEXING PRESENT :
WHERE DO WE GO FROM HERE ?

PROCEEDINGS

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CO-SPONSORED BY:
LAMBTON COLLEGE OF APPLIED ARTS AND TECHNOLOGY
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COMMUNITY COLLEGES

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COMMUNITY AND JUNIOR COLLEGES

EDITED BY: G. M. DELGROSSO, G. B. ALLAN

INTRODUCTION

G.M. Delgrosso - President, Lambton College, Sarnia

In the process of compiling and editing the papers contained in these Proceedings, I felt certain that the 7th Annual International Institute on the Community College had to be considered one of our most successful. This premise was confirmed as I reviewed the delegate's evaluations of the Institute.

The theme "A Productive Past: A Perplexing Present: Where do we go from here?" reflects the concerns of many of us. Indeed, the past was rewarding and exciting and we seemed to achieve a great deal in a short period of time, but now we are confronted with limited growth and limited funds. How do we put the brakes on and still provide the many educational services needed in our community? Some have even asked "How do we stay alive?", "How do we maintain the spirit?", and "Can we still be creative and innovative?". Of course, we are not going to die, but what are the alternatives? What does the future bring?

As you read the papers presented in these Proceedings, I am sure you will feel as I do that the Institute has once again responded in a manner that is not only timely, but relevant. We are proud of the diversity and the scope of the Institute's response to the theme and we feel certain that these Proceedings will be a valuable addition to the literature on the community college.

It has not been possible to include all the contributed papers. The editorial choice of material for inclusion in the Proceedings was a difficult one, particularly with the abundance of excellent material.

I would like to express my gratitude and appreciation to George Allan who worked very closely with me in the planning and organization and to all of those who contributed in any way to the success of the 7th Annual International Institute. Special thanks are extended to our opening keynote speaker, Dr. Arthur Cohen, Director of the ERIC Clearinghouse for Junior Colleges, Los Angeles, and to Dr. Edmund Gleazer, President of American Association of Community and Junior Colleges, who closed the conference speaking directly to the theme.

The College was pleased to host a meeting of the Ontario Committee of Presidents and the Invitational Professional Development Workshop for Presidents held concurrent with the Institute. It is expected that similar arrangements with special interest groups will form a part of future Institutes.

We are encouraged by the attendance, support and advice that we have received. It allows us to continue our commitment to promote the international exchange of knowledge, ideas and instructional techniques relating to all areas of the community junior college.

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THE FACULTY MEMBER AS PARIAH

Dr. Arthur Cohen

Director
ERIC Clearinghouse for Junior Colleges
University of California
Los Angeles, California

Keynote Speech at the Seventh
Annual International Institute
on the Community College
Lambton College, Sarnia, Ontario
June 14, 1976

The Faculty Member as Recluse

Arthur M. Cohen
University of California, Los Angeles

Stereotyping is a common practice. Most of us adopt or erect categories into which we place observed phenomena as a way of ordering the myriad impressions we receive. Children, foreigners, lawyers, doctors, women, old people, people with shifty eyes--mention of any of these triggers a patterned response because, in our minds, all form into groups. My work centers on community colleges, especially community college faculty, curriculum, and instruction and I do my share of stereotyping about these matters. In *Confronting Identity*, a book Florence Brawer and I authored in 1971, we made our own contribution to categorizing by posing three types of instructors--*model*, *mediator*, and *manager*. Tonight I want to relate some of my recent observations on the faculty and to pose a new way of perceiving them.

A couple of years after *Confronting Identity*, in a book entitled *Toward a Professional Faculty*, I extended the definition of the faculty members who see themselves as managers of student learning, stating that here was the type that would lead the faculty toward professionalism. I saw the professional instructor working within a body of knowledge not readily available to lay persons, a body of knowledge stemming from the discipline of instruction. The instructional manager was one who adhered to this discipline, engaging in the various processes that it implies, predicting student change, reporting student learning. And I concluded that because of rapid diffusion of faculty inservice training, faculty evaluation, instructional assistance to the faculty, and, not least, faculty acceptance of the use of objectives, reproducible media, and validated tests, the professionalization of the faculty was proceeding apace.

So professionalization is occurring, and many faculty are indeed advancing its development. But what of those who are not? What of the faculty who do no accept instruction as a discipline, whose contact with their parent academic discipline has eroded, and who deliberately sequester themselves away from the moving ideas of the community college? I speak here not of the time-servers, the clock punchers who seek only to reduce their working hours. Every occupational group has its share of them; let them go in peace. I speak rather of the instructors who feel they are involved in their teaching but who are in fact not developing within the profession, not using the profession to enhance their own growth as human beings, not advancing the profession itself.

I would pose a new term for describing these instructors. I see them as recluses, as self-styled pariahs, isolated from the academic disciplines in which they were trained, from the universities and the secondary schools, and from the broad currents of the two-year colleges, their host institutions. They are in an eddy away from the main stream. And they have placed themselves there of their own volition.

This is not to say that all faculty other than those who are advancing the profession are reclusive. Nor is it to say that those who are, are perforce cut off from other aspects of their life; they may be quite related to family, friends, students, and like-minded colleagues. But I think it is worth exploring the faculty member as recluse as an aid to understanding the way many instructors behave in relation to their work.

The reclusive complex stems from three phenomena, one relating to the teacher as human being and academician, another to recent developments in the community college field, the third with teaching itself.

The Academician -- A teacher's attitudes toward teaching are undoubtedly shaped by his own personality, early experiences, mentors, colleagues, institutional climate--a complex of prior and coterminous events. The role itself plays a part. As long ago as 1932 Willard Waller traced this effect. In his book, The Sociology of Teaching, he discussed the phenomenon of teaching as one of conflict, with the individual on one occasion saying to the student, "I am your teacher. Do as I say!" and on the other, "But I am also a human being and a good fellow. We have some good times together, don't we?". He identified this rhythmic contraction and expansion of the instructor's personality as having an insidious effect on the person. Kevin Ryan has also noted "...the problem of pedagogical schizophrenia--the phenomenon of reconciling two personalities: the human being and the disciplinarian..." (1970, p. 4).

In her intensive study of a group of two-year college faculty members, Leslie Purdy discusses how a person may have some basic orientation toward teaching, may have a picture of self in role "but once on the job, the attitudes are altered and shaped by peer attitudes and norms, by experiences from teaching itself, and by other aspects of the teaching environment." This is a private environment, one with jealously guarded covenants regarding work space. Purdy discerned that, "One attitude toward teaching expressed by many teachers ...is that teaching is and should be a solo activity, one teacher and one or more students. The privateness and the self-sufficiency of teachers in a classroom is a cherished part of teaching. Many instructors resisted any teaching method which would require sharing responsibility with another person for a class.... Deciding what will go on in a course and then enacting that plan is seen as a personal challenge to each teacher.... A common understanding existed that each teacher privately and individually face his or her own teaching. No one can stand in for another teacher...." Most teachers, Purdy points out, feel a need for hands-on involvement in order to get feedback from their students. This leads them to be possessive about their classes. Many instructors' idea of academic freedom is translated as, "My right to do what I want in my class." Further, Purdy related how "Instructors would only accept advice from someone else who had gone through the fires, experienced the traumas and successes of teaching. Recommendations about a new teaching method coming from faculty members are more likely to be considered by teachers while information presented by administrators...can be ignored."

Purdy's statements about teaching as a solo activity, teacher privacy, and the reluctance to consider ideas posed by administrators in one college, were confirmed in a nationwide study of two-year college humanities instructors that we conducted last year. When asked, "How would you rate the following as sources of advice on teaching?" more than 90% of the respondents said their colleagues were, "quite useful" or, "somewhat useful" and nearly the same number found students, "quite useful" or "somewhat useful." Department chairpersons, university professors, professional journals, programs of professional organizations, high school teachers, and administrators were far down on the line as other choices, in that order.

These attitudes are not confined to the two-year college level. In the April issue of Change Magazine David Riesman discusses how faculty "are oriented ... to students and teaching and are often inimical to discipline and to disciplines and to what they see as dehydrated specialization. Sometimes they use unionization and sometimes evaluation by students to protect themselves from the need for scholarly visibility both inside and outside their institutions. Academia is witnessing a new provincialism--not the provincialism of one's discipline,...but the perhaps more destructive or insidious, although less evident, provincialism of captivity by one's student disciples, charismatically courted as the road not only to retention but to feelings of worth."

What is happening is that a new ethos is taking hold, one in which faculty take pride in severing themselves from outside ideas as well as from outside people. And if Riesman has seen this phenomenon in the university, where there has been a tradition of scholarship and cosmopolitanism, think how much more it is accentuated in the two-year college whose roots are in the local community and where academic disciplinary affiliation has always been weak. Our nationwide Faculty Survey found 26 percent who by their own admission read no scholarly journals; 64 percent who read no journals related to professional education or to teaching in their field. And the faculty teaching in the humanities--history, literature, philosophy, and so on--were found to be little more committed to the humanities than were a comparison group of instructors in other areas. The lines of an adisciplinary group emerged, one that is tending to abandon the academic, and not replace it with anything of substance.

One anecdote to illustrate the point about the individual practitioner divorced from his discipline: in connection with our project on the humanities, earlier this year we convened seminars in Los Angeles, Chicago, and Washington, as a way of disseminating our findings and establishing guidelines for the next phase of the project. We invited many presidents, deans, chairpersons, professional association heads, faculty members, and others to discuss trends in the humanities, needed action to support them, implications of our project, and so on. Upon being invited, one community college humanities division chairperson called "for more information." When I recounted what we would be discussing, he said, "I would like to come but I am afraid I could not participate in the dialogue. I know nothing about the topic. I can't define the humanities. I can't discuss them. I would be able only to listen."

The Community Colleges -- Let us turn now to recent developments in community colleges and, as we do, let us shed a tear for the faculty member who began his career in the 1950's or '60's. When he came into the institution it was billed as the first two years of college. His courses were to be equivalent to those offered at a four-year college or university. Certainly there were vocational programs but they were offered in another building somewhere else, on a different part of the campus. And certainly there was the problem of accommodating students of low ability, but there were not many of them, and one could always fail them without excessive concern.

Now the institutions seem to have gone into some other business. The occupational programs grow ever larger. There seem to be more low-ability students, more remedial courses. And what is this "community-based education" that the instructor hears so much about? He might have accepted the move toward remedial work--at least it took the form of courses with students sitting in the classroom and there was some relationship to academic teaching. But one-day programs on purchasing real estate? Assisting community groups to organize and petition for redress of grievances? Giving credit to people who use the college's swimming pool on hot summer days? Even the marginally astute instructor recognizes this trend for what it is. It is the college saying, in effect,"We have given up trying to remedy student defects in reading, ability to analyze arguments, values, and logical interpretation--the traditional role of general education--and we are going to pander to community desires for entertainment and recreation." What is left for the instructor? Whatever affinity he once had for history, literature, biology, or philosophy has been eroded by his lack of affiliation with like-minded members of those disciplines over the years. He can reduce content to satisfy remedial students and still have a course retain some semblance of itself. But what is he to make of the funds and recognition that go into Health Fairs, community art projects, and modular courses on "How to Deal in the Commodities Market?"

Ten years ago, twenty years ago, when most faculty were recruited from secondary schools, there was a feeling of challenge in the new level of education. The move from high school to college brought a perceived increase in status along with a reduction in the number of required teaching hours from thirty to fifteen. Greater status and half a teaching load--quite a giant step! And the high growth rate in the Fifties and Sixties brought other benefits. Colleges were able to sweep problems under the rug because there were ever more students, ever more funds. Personnel who were non-productive, uncooperative, or essentially disturbed could be shunted to out-of-the-way corners of the institution if necessary. There was always something for them to do, always new faculty members to take their place. From the standpoint of the individual instructor there were new colleagues to be indoctrinated and all the excitement that goes with establishing new relationships.

Now there is no place to move. The instructor in the two-year college is at a dead-end. He cannot realistically aspire to a position in a four-year institution Even though three-fourths of the respondents to the humanities Faculty Survey said they would find a position in a four-year college or university "attractive," this door is open to very few. The senior institutions have many places from which to recruit instructors, and they tend not to look to people who have been socialized at another level of education.

The reduction in growth has had other effects. Many colleges have ceased employing full-time instructors--even as replacements. Part-timers paid on an hourly rate are being used to fill classes whenever a full-timer retires or leaves the institution for any reason. Frequently employed at the last minute, the part-timers have little affinity for the institution, and certainly little if any contact with the full-time instructors.

What is the full-time instructor to make of his institution's tendency to employ part-timers? Data from our humanities Faculty Survey reveal that part-time instructors differ from full-timers in that the part-timers are less experienced, read even fewer scholarly or professional journals, are less likely to be a member of a professional association, are less concerned with research, less concerned with curriculum and instruction, less concerned with the humanities, and more likely to hold the university as a reference group. Clearly this is a different type of population, one with which the full-time instructor has little in common. Inexorably, year after year, the percent of courses taught by this variant group grows larger. Where is the consistency in curriculum, the collegial interaction, the commonality of objectives or desired learning outcomes?

And yet why should the part-time faculty not be growing in number? They meet their classes, give their lectures, hear student recitals, turn their grades in on time. Put another way, what can the full-time faculty do that the part-timers cannot? Do not respond that full-timers have more experience, read more journals, are more concerned with curriculum and instruction, more interested in research. They are, but what do they do? What is that body of specialized knowledge that they bring to bear on problems of instruction? Are they more likely to employ specific measurable objectives? Validated criterion-referenced testing devices? Are they more likely to report student learning in terms that have clear and consistent referent? The answer is that if the full-timers insist on closing the door to their classroom and hiding behind perquisites in their contract so that no one knows the extent to which their students have learned, it is impossible to tell. We seek evidence that their students learn more than students taught by the part-timers. Until it appears, why should a district hire full-timers at all, with the necessity of paying them more salary and fringe benefits, and being obligated to them for continuity of employment? The full-timers know this, but shy away from responding to the challenge.

Further, when the full-time faculty form themselves into a bargaining agent they often exclude the part-timers. Granted they may want to isolate themselves because of feelings that the institution belongs to those who are wholly dedicated to it. The part-timers come and go, they say, lacking committment to--or responsibility for--institutional or departmental policy. But for how long do they think the part-timers will stand aside without organizing themselves? Even now in some colleges there are two locals of the same union, one for the full-timers and one for the part-timers, both bargaining separately. And the part-time group grows ever larger. The full-timers shrink in number, in power, in affiliation.

Institutional size too has an effect on the faculty. The Faculty Survey revealed some information about instructors' relatedness to others. On a projective question asking how respondents saw themselves in relation to different groups listed, the larger the college the higher the percent of instructors who saw the administrators as a tightly-knit group with the instructor himself standing apart from it. Further, the larger the college, the higher the percent of instructors who saw themselves as standing apart from their teacher colleagues. Clearly as the colleges grow larger--and now one-half the faculty in American two-year colleges teach in institutions with greater than 10,000 enrollment--the faculty sense of relatedness diminishes. This is yet another cause--and effect--of the pariah complex. If the faculty had developed a sense of common goals, techniques, concerns--a unique ethos--they would have had something to fall back on. As it is, they have done little but stand aside.

Teaching -- The third set of phenomena has to do with teaching. The two-year college is a self-styled "teaching institution." However, the calls for innovation heard so frequently in the 1960's have diminished. Whether or not they yielded much depends on one's interpretation. Certainly teaching practices have been modified somewhat and many faculties are well along with televised instruction, learning laboratories, the offering of self-paced learning opportunities, and other instructional modifications. But consider the obstacles. First, there are few criteria for concluding that the innovation enhances student learning to a greater degree than the technique it replaces. Few faculty members have defined the outcomes of their courses so clearly that they can assess the relative value of one technique or another. Second, many innovations were brought in by administrators who were convinced that they had the potential for saving money. But rather than following through cost savings that could be obtained through deliberate assessment of cost/outcome relationships, when the financial crunch came, the administrators took the easy way and began replacing full-time instructors with hourly-rate part-timers.

Still, the cut that affected the individual instructor most is that he tended not to be rewarded for his efforts at instructional modification. Undoubtedly changing an instructional technique is hard work and the true manager of student learning must put in more hours in instructional planning than his counterpart who delivers ad hoc lectures and unvalidated quizzes. But he has little access to assistance. Few colleges have budgets for instructional aides, readers, teaching assistants, that can be assigned to individual faculty members. Further, the instructional innovator has low visibility in his own college, even less outside it. Should he choose to attempt to meet with like-minded instructors in other parts of the nation he finds poorly defined professional associations in the teaching of his subject field and few funds for travel to meetings. The faculty member who has pursued innovation in his own teaching has had to do so out of a sense of professional obligation and a dedication to the belief that he can help his students learn more if he modifies his technique from the lecture/discussion/recital mode. It is not surprising that relatively few instructors have taken these options.

More to the point, consider how the reclusive complex comes into play here. The instructor who would be the innovator in managing student learning is put in a curious position. As he changes his instructional techniques--builds reproducible instructional programs, a learning laboratory, test-item banks--he may well find himself the subject of scorn. Small wonder. His actions implicity call his colleagues' techniques into question. If he is a proselytizer, he may be met with derision. If he chooses to go his own way, he has "sold out to the administration." Purdy notes, "Few teachers will single-handedly adopt practices which move them too far from the norms and practices of colleagues.... The few teachers who do break with their divisions or subject-matter groups to aggressively pursue a new practice either find a new faculty reference group in another division or relate themselves very closely to administrators and support staff members" (Pages 219-220). That is why many instructional innovators have become program heads, laboratory managers, instructional coordinators--all titles that at once evidence budget lines through which assistance in the form of media technicians and other aides can be provided, while at the same time setting these instructors apart from the rank and file. The group is by no means a majority in any institution but it grows steadily. And the others become ever more isolated.

A note here. Not all the faculty who see themselves as managers of student learning become programs heads--and not all program heads so define themselves. But all managers of learning are set apart. Sometimes they move to another department. Sometimes they stay where they are, effecting liaison with administrators to gain needed assistance but covering it so that their colleagues not dissociate themselves. Further, the use of objectives, media, and valid tests has little to do with the subject matter taught---we see lecturers, discussion leaders, learning laboratory managers, video-tape producers in every field. It has to do with the instructor's interpretation of self in role. The difference between a traditional full-time faculty member and a manager of student learning is in that interpretation. One says, "The ideal learning situation is a few students together with me in a classroom. I like that best. It is comfortable. Students must learn thereby even though I can submit no evidence in your terms that they have." The manager sees student learning as the prime requisite and defines his own worth as a teacher only to the extent that his students did learn. Yet he recognizes that a student may learn with or without his intervention, hence he is free to adopt or reject reproducible media as appropriate.

Here then is a group growing not rapidly but steadily. The program coordinators manage learning laboratories, instructional aides, and otherwise identify themselves with the discipline of instruction. And the full-time faculty stands aside, unable to retard them, uncertain of their own position. Too long they held to the pseudo-academic freedom of the closed classroom door. Too long they spent themselves in efforts to reduce class size. Too long they defined themselves as valuable to the extent they had personal contact with students, resisting any suggestion that they align themselves with defined learning. For certain, they are protected temporarily but they must watch the growth in staffing taking place among the part-timers. They must watch their colleagues being replaced with others not of their ilk

The full-time faculty members who isolate themselves in their classrooms--certainly, they believe, for all good intentions--are the recluses. They have chosen to sequester themselves away from trends, both in ideas relating to community college education, and in power. In recent years the community college has tended toward community education, adult education, off-campus activities. Yet the faculty members who see their primary mission as a process of cloistering themselves in classrooms, teaching traditional academic subjects, are not part of this movement.

Similarly, the faculty has pulled itself away repeatedly--one is tempted to say suicidally--from the lines of power within and around the colleges. The faculty have never been in a position of being institutional managers responsible for setting policy; that power has always rested with the board and the administration. But we now see faculty members refusing even to serve on college committees where at least the illusion of power is still present. We see faculty refusing to become members of speakers bureaus, where they would interact with the community in their areas of presumed expertise. "Serve on a committee? Go off-campus to speak? Why should I?" This is the reclusive complex in full blush.

It might be possible for an instructor to make a modification that would be sufficiently unique that he would not be open to the charge of having sold out, and yet it would still allow him considerable freedom to plan his work and to have all the contact with students he needs. Let us call this instructor a community scholar. Let us see him as academic advisor to the community, working with a lay advisory committee. The committee might include local talent in the arts, university professors, businessmen, laymen of any stripe. Let us also have him responsible for the part-time faculty teaching in his subject area. This community scholar would see himself as a full-time, professional person. He would have classes, comprised of the usual "credit" students. He would work in the social processes of his city. He would plan curriculum for the part-time faculty, share strategies, train them in writing objective and in gathering evidence of student learning. And he would have assistants.

This model of the instructor would accommodate many needs not now being satisfied. Primarily the community college needs a community connection. It needs lay advisors in the arts, natural sciences, and social sciences, just as it has in the many occupational and para-professional fields. This connection would work both ways. The instructor would get advice on needed courses, curriculums, and social and cultural events, taking back to the campus ideas for programs to be offered there and elsewhere. And it would also allow the instructor, hence the entire campus community, to make input on community decisions where a humanist, natural scientist, or social scientist would have much to offer. Rare is the city council that calls upon the local community college science teacher for advice when a decision is to be reached on the location of a park, the humanist for advice on the preservation of an historical building, the teacher of the social sciences when a roadway is to be located. Yet if a member of that council were a member of an advisory committee to the college's programs, he might be more ready to listen.

Other models of involved professionals might also be outlined. The point is that if the community college faculty is to emerge from its posture of isolation it must form itself around something. At one time I thought it would adopt the discipline of instruction--I was younger then and I believed the rhetoric, "teaching faculty," not realizing that was just a euphemism for "faculty who do not conduct research." Now I am less sure. And even though some instructors have become managers of learning laboratories, if they fail to develop, utilize, and publicize measures of student learning, if they become enamoured of their media forms, they will repeat the error that the traditional faculty have made.

The point remains that until the faculty adopts a guiding ethos, until it emerges from its isolation, it is, and will continue to be, a reclusive group. It prides itself on privacy, cuts itself away from academic affiliation, refuses to attempt to understand the discipline of instruction, ignores ideas stemming from outsiders, scorns administrators, shuns the community, abandons the part-timers who teach the same courses, treats with derision its own members who have become managers of student learning. The faculty have become isolated within their own institutions. The faculty member has become a recluse.

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FUTURISTICS IN EDUCATION

Dr. James Dator

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Toronto, Ontario

What I'd like to do is spend a few moments in a general and introductory survey, of the sorts of things that future studies, futuristics, futurology, futures research - it goes by a variety of names - mean to me. And the specific introduction would be a consequence of the two weeks I spent recently in Vancouver attending the HABITAT Conference - the United Nations Conference On Human Settlement. This was billed as the greatest non-event of 1976 by the Canadian Press and I would like to explore some of the reasons why it was a non-event as far as Canada, and North America generally, was concerned. I think there were very good reasons for this attitude. As you'll see, Habitat brought us only bad news, and like good optimistic North Americans we don't like to consider the bad news if it's faced into the future. Nonetheless, Habitat seems to me to highlight some of the reasons why I think it's necessary for us to re-examine the sorts of activities that we're carrying on in our colleges professionally and in our personal lives. Basically, to try to summarize a very complex situation, the Habitat Conference tried to come to grips with three inter-related questions - questions which I'm sure you're very familiar with and either react to with extreme agitation or more likely with enormous indifference.

Of the three you've heard mentioned over and over and over again, and I really apologize starting out so early in the morning on this depressing vein, the first is the question of global population growth. The fact is that people in the United Nations and elsewhere don't see any other future for the world other than one of essentially doubling the present population. The general figures, to review them for you, are that it took the world approximately 2 and 1/2 million years to reach the first billion people in 1850, and from 1850 to approximately 1976 it went from 1 billion people to 4 billion people. The full expectation of many people in the United Nations is that within the next 25 or 30 years that figure will double. That is, we can expect the possibility of anywhere from 6 to perhaps 8 billion people on earth within the next 25 to 30 years. Two and a half million years for 1 billion, 100 years from 1 to 4, and only 25 to 30 years from 4 to 8.

Well, I mean, why worry about it? The essential notion is that the exponential growth which is essentially what is being described here has a quality of obscurity to most of us. The nature of exponential growth is well illustrated in that well-known example of the pond with the lily pads on it. The lily pads grow at a doubling rate, so the point just before the pond is completely filled is when it is only half-filled. So you don't understand, generally speaking, the character of exponential growth or of any very rapid growth until, in a sense, it's too late. And the question in many people's minds is whether this first problem, which, of course, was described in 1972 at the Stockholm Conference and a little later in Rome at the population conference, has not already been identified too late. But, as near as the U. N. can see it, these people are coming - and they're coming into the cities. The full expectation of the United Nations is that around the turn of the century, for the first time in human history, more human beings will live in cities than live in the countryside. Human beings will for the first time be urban creatures rather than rural creatures.

Again, that's no news to us. Eighty per cent, and growing, of all Canadians, are urban dwellers. In fact, the full projections of Statistics Canada are that there will be 4 or 5%, in fact it's zero on the chart, of the population living in the countryside by the year 2000 in Canada, if you just take trends from the past and project them. So, I mean, aren't we healthy, aren't we happy, isn't it a wonderful country? Why should we worry, why should anyone worry about the implications of population growth? If we are able to solve it, why can't they? Well, if they weren't such lazy buggers, no doubt they could. However, there are one or two other factors that the U. N. has identified, again which are common knowledge to you, but when you put them together in a particular way, they seem to some people to be worthwhile holding an international conference about.

The second factor that I'll summarize involves many specific components. Dwindling resources. Dwindling resources of the sort that in fact have made this dramatic population growth possible. And there are very serious questions again - you're familiar with all of them, the problem of fuels, the problem of food, the problem of clean water. I've really been shocked at the way the issue of clean water has been treated in the press, at least the press that I've read, as though it were a motherhood issue, - who's in favor, is anybody in favor of dirty water? Now, that's not the point. The point is that given the demands that are being made upon clean water it's a very serious question as to how we will be able to supply it given the population growth that we have, and given the other demands for water, not only drinking water, but water for agriculture. If you don't have this, you don't have population growth and all the rest. So, there's the question of dwindling resources.

Generally speaking, we are so familiar with these two things - population growth and dwindling resources - that we're bored to tears by them. But there's a third side of the triangle that changes our boredom into something else, it seems to me, and that is an apathy growing out of fear. The third factor is the question of equity. There is a growing demand in the so-called Third World and within our own world on the part of people who either have been, or view themselves as having been, disadvantaged in the past - a demand for a fair share of the resources of this world. And, if you get right down to it, it seems to me that the thing that we don't particularly like as white North Americans in the United Nations, the thing that the press picks up on over and over again, is that people of different races and different nationalities are beginning to act as though they have a right to these things. In fact, they are talking about, in a sense, taking them away from us. So, faced with population going this way and resources as defined in the past going that way, and demands also on the rise, a situation results that we don't particularly like.

In essence, that is what the Habitat conference was about.

Out of the Conference itself developed a number of conflicts, or rather one conflict that had a number of ramifications. The fundamental conflict was between the developed and the developing nations. There is no question that we are seeing a major change in the balance of international relations that is so profound for the sort of life we live at the present time and the sort of expectations that have driven us as a society for the past several hundred years that we don't like to look at it.

This argument took on a number of specific aspects. For instance, it was coloured by the raising of the Zionism issue. The Arab states and many of their allies were there, and this was a real issue with them but it also was used by the developed countries to diffuse the real problem. It was so fortunate that the issue was there because it enabled the developed nations not to have to face the facts. They could vote 'no' on all of the resolutions simply because there was a little pause in there when it was being presented that they could interpret as being against Israel. Now, that was very, very fortunate - if it hadn't been there, they would have put it there. Or, at least something to prevent the developed countries thinking about the absolute demand for re-distribution. The absolute demand that the sorts of approaches that have characterized the last several hundred years are not going to continue if the Third World has anything to do about it.

They've given us, news that is not good. Not the sort of thing you want to hear at 9 o'clock in the morning and I apologize for bringing it up. I'll try to say better things about the future in a few minutes. All I'm trying to do at the present time is set a stage, and other stages could have been set, for a fundamental re-examination of what the hell it is we're doing as human beings, much less as instructors in community colleges.

This argument between the developed and the developing nations, and for that matter within the two groups, split again over a fundamentally important distinction. This is one that I really want to focus on as far as our discussion here is concerned. And that is the argument between what I call industrial technology and what was called at the conference "appropriate technology". Industrial technology and appropriate technology. There are many, many examples, but the one that was most clearly focused at the UN conference is right there in today's Globe and Mail. Naturally, it's in the second section, but nonetheless on the front page of that. "Almost half of Canadians ignorant of A-power, survey finds." A-power turns out to be nuclear energy. It says here, and I'm sure you all read it, being well-informed citizens, that nearly half of all Canadians are completely uninformed about the use of nuclear power to produce electricity. But of the 56% who say they do know something about nuclear energy, 68% are in favor of it.

Now, I'm neither for nor against nuclear energy. That's not the point I'm trying to raise with you here. All I'm trying to say is that this sort of an issue was one of the major galvanizing points of the UN conference. I think it will be a major issue in our immediate future and will strike fundamentally at the role of the community college. And that's the point I will get to in just a second. Let me illustrate what the point is.

Maurice Strong is a man who most of you will recognize as having been the Secretary-General of the Stockholm United Nations Conference in 1972 that dealt with the environment. Until recently, he was head of the United Nations Committee on the Environment, and has most recently assumed the position of head of Petro-Canada, a Federal agency of the Canadian government concerned with energy but especially with petroleum energy and supervising the future of the petroleum industry in Canada. Maurice Strong was one of the major speakers at a HABITAT forum; I'll get to that distinction in a second. In the HABITAT forum plenary session, he was asked and responded in his speech specifically to the question, "Dr. Strong, do you favor Canada's official governmental position toward nuclear energy?".

Now the official position in Canada is that we've got a fantastic nuclear generating technology, CANDU. It's clean, it's efficient, but not only that, we've got it, and we want to sell it. So Canada officially went around encouraging nuclear energy as a generating technology, trying to sell it to the Third World and to anyone else who would buy it, including the United States, for that matter; Canada argues that CANDU is a much better system than the United States system, as it most certainly is. And, so thats the question that was asked of Maurice Strong. "What do you think about it?". He said, "Absolutely not. We should not encourage further nuclear generating technology".

In fact, one of the major proposals that was intended to be made in the official declaration was to impose at least a moratorium on any further proliferation of nuclear generating technology and preferably to phase out the plants that were already in existence. Why? Strong mentioned, and I'm trying to go through this very briefly, Strong mentioned three reasons. The first, the one which he dwelt on least, was the well-known safety issue - the question of whether the nuclear generation of electricity and disposal of nuclear wastes is safe. And, by all odds, in his opinion, it is not safe, particularly with regard to disposal. Some systems are safer than others, but the overwhelming problem of disposal of nuclear wastes, requiring tens of thousands of years of maintenance in vaults that will not decay, or else the discovery of some other utilization of this extremely dangerous waste material implies our being right for so long in so many places as to be utter folly.

Strong says that's not the major point. Well of course it is, but it's so obviously clear that, from his point of view, there's no reason to go on with it. Rather, he said, the second reason we shouldn't do it is a much more immediate and understandable reason and that is the question of capital, of money, of cost. Strong feels that one of the most costly ways we can seek to solve our genuine, and it is his opinion, genuine future energy crisis, is through nuclear generating technologies. In fact, if we continue along the path that we are continuing now and perceive as advisable in the future for other nations, it will cost so much money just to put up the plants that we won't have enough money left over to do anything with the electricity generated. As community college people in a situation already recognizing dwindling financial resources, although he didn't say this specifically, he would argue that you should, in your own self interest, be opposed to such a solution because of its heavy capital costs. But neither was this the real reason, from his position.

The real reason is the centralizing logic of nuclear technology; that is, the fact that it requires a concentration of political and economic power in the hands of the Federal government, or in the hands of a small number of technical bureaucrats who are required to link together the whole system - into an electrical grid, of course, but also into a production and maintenance linkage because of safety and capital investment and all the other reasons. He says that this is not the way to go. Again, I'm not trying to argue that it is or is not, but I'm trying to make as forceful an argument as he did in order to have you understand, if I'm making myself clear, the position that he was taking.

What does he favor? What he favors is solar energy. First, as much research going into solar energy as is possible; secondly, the utilization of solar energy which is already technically feasible at the present time for the generation of hot water and heat; and third - conservation, rigorously enforced now, of all energy uses: in transportation, in heating, in air conditioning, in many, many other areas These moves, would enable us Strong feels, to avoid the three evils of nuclear generating.

I don't want to make a pro-solar energy argument. Many of us would say that it is foolish because the technology is clearly inferior. If we look at the official projections of solar technology, at best from 2 to 3 to maybe 20 per cent of projected demands can be met by solar technology as it exists now or as it is projected to exist by the year 2000. Clearly, not enough according to those figures and those understandings.

The point is that the United Nations Conference split very fundamentally on the issue of whether it is best for any nation, but especially for the so-called developing nations, to try to move into an area of energy, or transportation or housing with technologies that have characterized our growth for the past 150 years, because the industrialized world is finding that those technologies will not continue into their own immediate future. Therefore, for the developing countries, an argument is being made that they should not attempt to move in this direction, but should rather attempt to develop appropriate technology, technology that is not energy intensive, is not capital intensive, that does not disrupt tribal or decentralized ways of life.

These arguments were made in two ways. One of the distinguishing characteristics of the Habitat conference, something that made it stand apart from all other conferences was the use of multi-media presentations. The use from any multi-media specialist's point of view was horrible because of the under-utilization of the potential, but as a first step I think it was extremely promising as an indication of a new way of doing things. Every nation produced at least one multi-media presentation about a problem that they had relative to human settlements and a way in which they had solved that problem. These films, or, for the most part films, were then made available for the delegates to view in order to get an exchange of information about how a problem was identified and solved, or at least tackled. And, it is without a doubt, clear to me that because of the character of the delegates primarily from the third world and because of the very clear didactic quality of those films, that an enormous amount of information was exchanged.

The press said about the conference that it was a failure merely because one committee out of the three committees couldn't come up with a single declaration of principles, and then only because a small number of people couldn't agree on a single issue. Nonetheless the amount of information that was exchanged between technically competent delegates was extremely impressive.

That's just an aside about the technique and the fact that it was a successful conference from my point of view. The message of many of those multi-media presentations was in favor of appropriate technology. In country after country, in film after film, all around the world, the statement was we do not want to grow, we want to prevent people from moving into cities, we want to keep people out in the country, we want to preserve present ways of doing things, we want to preserve ecological and sociological balances, we want to provide cleaner water, we want to provide sewers, we want to provide energy, but not the way the West has done it over the past several hundred years.

And this again was not unanimous, but the point was made so often in so many independently produced multi-media presentations as to be very impressive and, of course, the same message was contained in many of the presentations developed in the West. Again, it is not my desire to say that that is my position. What I am attempting to do is to show that at the international level, as well as in your own communities, this is a very serious debate that is being undertaken at the present time that I think you will see strikes at the heart of the community college and your job and your future.

In any event the point that was made was that we do not want to follow the way we have followed in the past several hundred years. One, because it is socially destructive; two, because it's environmentally destructive; three, because we couldn't do it if we wanted to because the situation facing us, the social environment facing the world in the immediate future, is not one that will permit those old solutions even if they were proven to us to be desirable.

Let me mention a third conflict, because again it will relate to some points I want to make in a few moments. All of the recent United Nations conventions dealing with specific problems: environment, food, population, law of the seas, women - have two conferences going on at the same time. One is the official conference of delegates of the nations that make up the United Nations, and the other is a parallel, but officially sponsored UN sponsored conference of the NGO's, the Non Governmental Organizations. This format is not new. What was new and highly significant to me was the way it was actualized in Vancouver.

The UN conference was held in an atmosphere that would please most of you. It was held in downtown Vancouver, at the Vancouver Hotel, at the Holiday Inn, at the Queen Elizabeth Theatre. Everybody sat in neat little rows and speakers stood up like I'm standing up and droned on and on and you listened to one droner after another tell you things you didn't want to hear and you were locked into it unless you rudely got up and walked out, and you had very little opportunity to do other than posture as even the speaker himself was posturing. This format, it seems to me, is intimately connected to the industrial society's way of doing things, in which a vastly intelligent person unilaterally lays information on a bunch of dummies. This form was proper, and formal - everyone dressed formally, spoke formally, said insults formally, all the rest.

Across the bay, in an abandoned seaplane base in seven reconstructed hangers and an incredible arena around it, was HABITAT Forum, which was the meeting of the NGO's. Now, you might have read something about the person who was responsible for the creation of HABITAT Forum. His name is Al Clapp. And Canada should make Al Clapp a knight, or whatever is a high honor, if there is such a thing within Canadian society, because he deserves to be recognized for what he did. He certainly didn't do it alone and yet his own personality was so abrasive, so pugnacious, so obnoxious that I think that he was able to create an environment for freedom that is unsurpassed in my experience of going to conferences and attempting to do things.

It was to me the perfect blend of many things. A rock concert, and a drunk-in, because it had and featured and luxuriated in having the longest bar in North America. It had extremely serious discussions. It had appropriate use of old material; these old hangers were re-done with banners, with paintings, with wood carvings, all of the material recycled, re-used, all of the people that did the labor themselves recycled and re-used. They were old retirees, they were former drug addicts, and some not so former, they were juvenile delinquents, there were the great people that are unemployed in our society, young people anyway, who went there, pulled up logs from the beach, straightened out old nails, everything there was recycled and re-used.

When I went to visit it in January, I guess it was, in what Vancouver told me was a snowstorm, although the size of the flakes were so gigantic I couldn't believe it was snow. I walked on the base and sure enough mandatorily around it were pickets from the labor unions, because the laborers that were being used were not union labor. Now there again is a clear indication of the conflict between industrial society of which labor unions are absolutely part and parcel, and the do-it-yourself dropout incompetents putting together HABITAT Forum.

The result, from my incompetent point of view, was a fantastic achievement. They created a plenary session all on risers, in irregular shapes, not a back in the whole thing, that made it possible for 3,000 people to surround a speaker and feel that they were 2 inches away from him, that it was a personal conversation. Absolutely incredible design by a bunch of people that can't get employed. So that it was, to me, an extremely good environment. The Indians, excuse me, the native people were there beating their tom-toms, and demanding their rights; the people from the Manila settlement, the squatters settlement, were there, saying how Marcos had forbidden them to come; Margaret Trudeau was marching around with her pail of water in her Girl Scout uniform; there was all this stuff going on outside, bands were marching back and forth, the Mormons were singing, the Doukhobors were singing, the rocks were rolling, everything was happening all around and the drunks were over there at the longest bar in history. So, it provided a multi-sensory, intellectual physical sort of a contact that is bound to be repulsive to many of you. Ycchh! My God, that's no way to do education, that's no way to hold a conference - well, then, go across the Bay because over there is where they're doing it in the way you like it except that they're doing it with multi-media presentations. It can't really be all that serious, huh? Because the only time you're ever serious is when you're standing up talking with a coat and tie and then you know that you're saying very serious things, reading your manuscipt.

The point is that the stylistic difference, the tone, the format, the different type of education that was going on there seemed to me to be highly illustrative again of the change. I don't believe that that could happen anywhere else in the world except Canada, and I'm not so sure it could happen anywhere else in Canada except Vancouver. Maybe Sarnia, but I don't know. But, it certainly was an experiment that I, as a Hawaiian, will certainly have to give my warmest Aloha to - it was fantastic, and, in fact, it made me feel right at home. Something that we call the great Hawaiian jubilee attempts to combine fun and learning. We somehow think it can be done.

Now, what does all this mean to you? This was all an introduction, and I apologize for taking so long to get around to the point. But the point is that if industrial society is about to come to an end, as those people were saying, then I think you have a very serious question about not only the future of colleges, and the future of your occupation, but your own personal future. I say this because it seems to me that the community colleges and you and your jobs are an invention of industrial society. As much an invention as that scoreboard up there, as much an invention, in fact, as basketball. Both colleges and basketball were invented about the same time; in fact, basketball will probably outlive you. There is a challenge coming, a challenge that is being made by the people who are making the statements that made it necessary to hold the UN Conference. Whether they are right or wrong, I don't know. The point I am attempting to make is that some people see the future this way while a whole bunch of other people are seeing the future as a continuation of the past.

Now, I intended to launch at this point into a little statement about how do we actually see the future. I'll hold that and get to the point in the Availablity Session where I will go into my understanding of the various ways in which people that engage in future studies do attempt to look into the future and shape it. What

I would like to do now is skip over that rather crucial part and comment about four things that will happen in the immediate future that seem to me to be pushing us towards a certain type of a future.

First, is the continuation of past trends; the continuation of industrial society, or the attempt to continue it. I generally call this the Herman Kahn view of the future. Many of you are familiar with Herman Kahn; he's written a lot of books or, as I like to say, the same book several times, and has most recently come up with a book about the next 200 years that you probably saw reviewed in the press saying that everything is going to be all right, that we are moving into an incredible period of prosperity, that all the nations of the world are about to take off on such a gigantic leap towards industrial economic growth that its going to make the last several hundred years look like we've been standing still. Now, I cannot tell you that is not going to happen. I've already told you a lot of the arguments of people who say it's not going to happen. My point is that one of the things that's pushing us into the future is people thinking that it's going to happen, people acting now as though that was going to happen, and an awful lot of extremely capable people such as many of you who can't imagine anything else happening. Who say, god damn, those appropriate technologies, those eco-freaks, those counter-culture buzzards, those guys don't know what the hell is going on. All you've got to do is GET DOWN AND WORK. GET IN THERE AND SLUG AHEAD.

You know, that's one reason why I think Herman Kahn is so happy, sees the future so well, because the sixties are over, the counter-culture, where is it? It's certainly not anywhere that can be seen. Instead we are moving into what the Protestant ethic people, the teachers, like best of all - hard times. Hot damn, now we've got some challenges, now we've got some hard work, now we can finally use our talents for something. It was awful, remember back in the sixties, when we used to see the society of leisure? the abundant society? What are we gonna do in a leisure society - no reason for me to exist. Why do I leap out of bed at six o'clock and rush down to my classroom and erase the boards and clean the erasers and get everything all ready if it's all for nothing. Aw boy, did we ever resent those guys who could just take it easy. One thing we can't do as teachers is take it easy and we try to make sure that our students can't either, and end up being people who are driven by the same sort of desire to get ahead, to make this a great country, to be better off than their parents. In fact, isn't that the whole point of the sort of institution that we represent? Isn't that the whole point of the community college - to train people to have certain skills and certain technologies, more importantly, infuse them with attitudes that will make them hard workers, up in the morning, out on the job, first one there, striving, striving, making the GNP bigger, making their own income bigger, being better off than their parents and all the rest.

Well, those people are here - they're us and we are delighted to hear that there is an opportunity for this sort of a future. So we have a water problem - hot damn, we'll clean the water up; I mean, we're going to have a department of clean water in every one of the community colleges, trying to solve this problem. What are the things that the UN Conference says we have problems about? What were they again, Dr. Dator? Let me write them right down, going to rush right back to my college and say we can get a grant from the UN to solve these things and you can, and you will, and that's going to be part of the solution. Certainly, it's going to be part of the solution. In fact, from the point of view of Herman Kahn, it's the only solution.

But, on the other hand, on the other side, it seems to me that there are an awful lot of people, like them or not, a growing number of people who are still looking at things quite differently, who look at the past several hundred years of industrial technology and say, "No way! I don't like it, it's de-humanizing, it's destroyed everything that I think is worthwhile. I don't like the social institutions that have resulted from it, I don't like what it has done to the environment, and I don't see any way that it can possibly be continued except by making it worse."

Now, their numbers, it seems to me by every indication that I can figure out, are growing, not declining. And in the section that I skipped I was going to do a little bit about age-cohort analysis and point out that, as a rule, the people who are members of this first group tend to be people 40 and older and the people who are in the second group tend to be 39 and younger. The demographics of Canada and North America are very definitely in favor of that younger group. Not only are the older people going to die, almost inevitably, although I'll get to that in my third point, but the size of the group of people 39 and younger is such that they're going to be a permanent majority in the Canadian future.

That brings up all sorts of very interesting things, such as one of the problems that was mentioned yesterday, and that is the fact that almost all of the positions of leadership in community colleges, in universities, in educational institutions everywhere, in fact, in all institutions of North American society, are already filled. And they're filled by people 40 to 55 years of age, which means that they're going to be around for the next 15 or 25 years, which means all you young whipper-snappers who aren't already in positions of power are just out of it, because there is not a continued population growth underneath you. In fact, population is declining underneath you. The situation that made it possible for incompetents such as myself to get tenure at a major uni-, well, at a university, is the fact that we saw continued population growth occurring and hence, we just had to have people administering things.

Now, that doesn't seem to be the case any more; the jobs are all filled. In fact, people are just standing around waiting for us to die and unfortunately, we're so healthy we're not going to do so any time soon. So looking at it from the point of view of a 25-year old, the future looks just a bit grim if you're going to tell me that the sort of things that have characterized the past are going to continue. Because if that is the case it means no upward mobile opportunity, no opportunity to do anything worthwhile, except go out and try to refurbish old abandoned seaplane bases.

Well this is the first sort of thing happening - the expectation on the part of older people that growth is going to continue and that everything is going to be all right. The second is the feeling on the part of younger folks that the only possible way that I can breathe is for the system to collapse, to devolve, for the old scientific paradigms to begin to break down. Time, in a certain sense, is on the side of that second group. Time, and power, and growth in numbers.

The third thing is new technology. One of the things that resulted in the development of futuristics in the late 50's and early 60's as a way of looking at society was the widespread belief that the thing that caused social change was technological change. And if you looked at new technologies and could figure out how technology shaped society, if you could devise a model that would enable you to simulate society and the impact of that technology on society, you could perceive the future. I believe that to a certain extent that one of the theories that is most powerful in understanding how society is shaped, is McLuhan's statement, "We shape our tools and thereafter our tools shape us." And so I do believe it is important to look at some of the new technologies and see the ways in which they might shape society.

As a result, it was certainly disillusioning to me to see in the HABITAT Conference that the argument was between the present as past and the past as past. That is to say, it was between industrial technology, which is a past-oriented extension into the future and appropriate technology which tries to go back before the industrial period, back to an even earlier state, and project into the future. There was almost no recognition of some of the, to me, incredibly important new technologies that are under-developed at the present time, and which blow all those considerations absolutely to hell. As important as they are, they are nothing in terms of the sorts of forces that are in the midst of shaping our society now, and which, even if we didn't have all of these environmental and sociological complaints, would still make it necessary, in my opinion to recognize that the future is almost certainly going to be quite different from the present.

Again, all I can do is just mention them to you. First, the biological revolution is one of the ones that I have to emphasize. I believe that biology is in a position similar to nuclear physics about forty years ago. We're on the verge of changing what it means to be human, what human nature is. On the point of being able to. Now, whether we choose it or not, whether we allow it to go forward or not, whether it will obliterate us as a species or whether it will transform us into a new species - I don't care, but I believe that it is an extremely important technology.

Secondly, and related, is a continuation but a transformation of some of the existing electronic technologies leading to the probable development of artificial intelligence. Now, this is something that was looked at four, five, ten years ago as a probability. Because of the frightening aspect of it on the one hand - what it would do to society if it were to occur - and because of the growing recognition of the complexity of artificial intelligence, it became unpopular. But research in artificial intelligence is still going on. Just because it no longer makes the front page, or just because you no longer have speakers coming through talking about it, doesn't mean that it isn't going to happen. To the contrary, it is more likely to happen now because it is past the fad level and people are doing basic research into it. If, as some people are expecting, within x years, x being anywhere from 1 to 25 years, an intelligent, and here words fail, machine? being? - I don't know, is created, I think it might ever so slightly alter our role, both professionally and personally. It just might make things a little different. And, again, it will make such a difference that we would rather talk about clean water which, of course, we should talk about, or talk about the Olympics which, of course, we should talk about, rather than talk about the implications of this technology.

Let me mention a third one. I'm moving a little bit farther out from the here and now, but if you're familiar with the arguments in this area, it will not strike you as further out at all. And that's extra-terrestrial intelligence.

Ah, now, Dator, you've finally winged out, you've lost me now, you're talking about intelligence from outer space. Well, unfortunately, folks, all I'm doing is passing on the good news. I'm not telling you that it is or is not going to happen. But not very far from here, at Cornell University, Carl Sagan and others, have been involved with NASA and with a group of other people in a very serious and interesting research program for quite a number of years which has resulted in the expectation that there must be intelligent life in the universe, and that we have passed the point when we can argue as to whether we should try to contact it or not, because we already are broadcasting our existence to the universe. This, of course, is the point that makes it different now from before. Since the Industrial Revolution the amount of infra-red radiation has increased dramatically and is continuing because of industrial technologies. Most importantly, since the invention of the radio and then, more recently, with television, we are sending radio beams out into space at an ever-increasing volume. Some intelligent beings out in space, are probably paying attention and, after they get through the re-runs of "I Love Lucy" and get to OECA's more advanced programming, will suddenly see that there is intelligence on earth and will send a message to us. A number of countries are engaged in monitoring the skies, waiting for that first message.

The expectation is not that they are going to show up in little green suits. In fact, they're not going to show up at all. The limitation of travelling at the speed of light is accepted by NASA in any event as an absolute limitation, so it will merely be a rather leisurely conversation; how leisurely depends upon how close that intelligence is. It could take 10, 15 years - more likely several hundred years, so we'll have a chance to formulate our questions and answers. NASA's argument is that if they' able to communicate with us, they they probably have had an evolution similar to ours. If they have had an evolution similar to ours, they have probably faced the problems we are facing at the present time. If they have faced those problems, they have probably solved them. If they have solved them they have some information we'd like to know. Hence, because of that, such investigations are not just a nice way to get money from the United States Federal Government, but also an extremely important sort of an activity.

Finally, and I don't know how to call this a technology, there is the recent controversy concerning the probability of major climatic change in the global environment. As you may know, there are those among us, meteorologists and climatologists, who say we are on the verge of some sort of a major change. That in North America, especially, in the northern hemisphere, we have been in a warming period over the last 150 years which is now about to dip down into a normal cooling period. The question is whether this is just going to be a couple of degrees of cool, which only means you lose several million bushels of wheat a year and which makes it just a little bit colder and a little bit drier, and all you do is just mildly starve to death or is this really something significant - the beginning of another ice age - as some of the meteorologists are saying.

A general problem that has faced science recently is what to do with predictions about events which are unpreventable and problematical, but which if they were to occur would be so disastrous as to disrupt life - such as earthquakes. There is a growing body of research trying to figure out what to do with that sort of information. Earthquake prediction is another area where we are right on the verge of being able to figure out when it's going to occur and how bad it's going to occur. One of the areas in which a great deal of research is being undertaken is weather modification. The group which is passively predicting bad news about weather changes and those who are actively trying to change the weather should get together and do something about it. Unfortunately, the current theory is that the cooling trend is due to a quieting of the sun in terms of sun spots, and we haven't yet figured out a way to encourage the sun to be a little more spotty over the next hundred years or so. But on the other hand there are those people who want to send out nuclear waste out in space into the sun, so maybe they know what they're talking about.

So far I've mentioned three things we can be sure will influence the immediate future. The first is the expectation of continual growth and the assumption that the associated problems will be solved somehow. The second is the attitude of those sympathetic to the counter-culture and their growing numbers in society, not only in North America, but around the world. The third is a whole cluster, I only mentioned a few, of new technologies which seem to me to be making it impossible for us merely to expect the present to continue into the future.

The fourth influence is the one that made HABITAT so uninteresting to us, and the one that I think results on a political level, in even more profound change than the things we've mentioned before. There are two components. One I'm not so certain is a permanent characteristic, although I think it is; the other I'm relatively sure is.

Generally, I'm talking about the decline of the West and the rise of the Third World. We are in a period of either absolute or relative loss of spirit on the part of most industrial nations in terms of the driving force, the ideology of their own task, and their own perceptions of the future. It could just be that we're fed up to here with Bi-centennial messages and that once that's over we can get on being human beings again. It could be that as far as the United States is concerned it is the remnants of Viet Nam, and the whole political charades of the immediate past.

It could be all those things except that I find it extending throughout industrial society generally. It seems to me that it is not merely temporary, although I do expect some sort of a rise of racial and cultural pride to occur, but I do think that we cannot expect in the immediate future, of any duration of the continued domination of the West, of the industrial nations, in the way that we've seen it in the past. The signal for that change, and the message was transmitted to most of us in the West and made absolutely clear to people in the Third World, was the 1973 so-called oil crisis. That was, I think, the psychological changing point in the balance of relation of the world. And the reaction on the part of the West runs along the lines of Christi Herter's petulant bad-little-boy act of the UN: "I'm not going to play with you at the UN any more; you guys want to act as though you're equal. We know who's equal, the

United States. We're in charge of everything, and you third world people, you want to take it all away from us, and, well, we're not going to let you."

Well, okay, we can try it, we can try it. I believe that the same sort of reaction is the basis for the disinterest in HABITAT shown by the Canadian press and the Canadian public. All these colored people, all these people that dress funny, that eat differently, that act differently, that have a different cultural background, are demanding the things that are ours, are going to prevent me from having a new car, for Christ's sake, are going to deny all the things that have made my life worthwhile. The hell with them. Now, that certainly is our feeling and we're not going to be able to get away with it, in my opinion.

So, the fourth thing that is happening is a changing attitude toward the future on our part, and a changing attitude toward the future on the part of the developing nations. It is less and less that the Third World is looking to the industrialized world for their future - that's the message of appropriate technology. They are trying to say they do not want to imitate the West any more. Now it's not unanimous - there are still plenty of people that do, but a change of mood is occurring in which they are now looking to their own past for some sort of a cultural revitalization. They are looking at each other, which is why China is so appealing to them. Tanzania was the first to really make a strong statement in favor of appropriate technology, and this has spread in the past several years all over the developing world, the Third World. A looking for a new way, a new future, a new definition of what it means to be man, human, that is not necessarily found in the West.

And, in addition to that, there is growing competency on the part of people in the Third World. We too often tend to think that they are incompetent children who still have to learn from us. I'm not sure that that was ever the case, but it certainly was the fact that they came here, they studied in our colleges, they learned the skills that our white students were learning. They're now going back full of those skills and full of an attitude of "I can make the future myself", and they're going to do it.

Now, I distinguish here briefly between the Third and the Fourth World. By Third World, I mean those underdeveloped, or undeveloped or developing nations that are not overwhelmed with problems of population growth and resource exhaustion. There are a large number of them, and their numbers are growing as the nations themselves come into existence. These are countries that have moderately good population projection and excellent resources that are under-utilized at the present time. They are interested in utilizing resources in new ways, not the way we have, and are looking around for other models within their own culture and elsewhere. I think they will develop them, and beyond that, I feel very optimistic about their future. Much of the so-called Fourth World, I think, has a much more serious problem. I'm thinking here, for instance, of Bangladesh, and perhaps India - it's a question how it should be labelled - and other nations, large in population and short of resources, which are plagued with political and ideological problems.

So, there are four factors which typically are looked at in isolation. It's seldom that the four are linked together into a projection of the future of the world. In my opinion, these are the sorts of forces which are pushing and pulling us into the future. I cannot predict what the future will be. I don't know anything about it that you don't know. As I've said, I can say something about the techniques and something about the methods and something about the attitudes that other people have concerning the future and will be glad to do so in the Availability Session. I believe that we are at a period where we need to examine our image of the future, and to examine how we are projecting the future into our classes and into our lives. We need to ask what sort of skills and attitudes are we teaching our students now, what sort of future are we implying in what it is we are teaching, and where did we get this idea?

If we assume as members of community colleges that industrial society is going to continue, then the only job for us to do is to infuse attitudes and skills appropriate to being a member of industrial society. If you think that Herman Kahn and his group are going to win and that sort of a future is going to continue, then don't worry about the future any more. Just go on and do what you've been doing in the past. Sure, do it a little better, have some professional institutional development in order to learn the newest tricks, but there's not going to be much new. Everything is okay.

But if any of the other three things, either individually or separately or in conjunction with the first, plus things I have not mentioned, are likely to result in a transformation of the future, and such seems to me to be the case, then we do need to re-examine what in fact the future might be.

I don't believe there's any way we can avoid those four trends, and the interrelationship of those four trends wrenching society. The future is not going to be one of less turmoil than the present or the past, but rather of more. The only future that I don't think is going to happen is one of calm and serenity. The fifties, as much as we want them to return, are not going to return. Now, we can work toward it and , in a sense, that's what the second group is attempting to do. But, even moving that way requires us to move against all the other forces, so the immediate future is bound to be one of turmoil.

Perhaps a surfing attitude is the correct way to approach the future. In surfing, we shout, "Here comes the wave", and we have a number of appropriate postures to it. One is to get on our board, face the wave, and try to dive under. Well, we can try, but I think that we're going to find we're just going to be thrown up on the beach, our board obliterated, and us as well in the process. The force is too great, we can't go under it.

One of the things we can do certainly is to get up on the wave and move with it. We can, as a surfer can, use that wave for all sorts of different purposes, going all sorts of different ways. We don't need to be victimized.

But let me end by saying that I don't think that is an appropriate analogy because I do not believe that we must be victims either in the sense of being totally helpless or in the sense of us only being able to respond to trends. One of the things we've attempted to do in Hawaii, and one of the goals of my work with OECA here in Canada is to develop citizen participation in the shaping of the future. I think it can be done at the community level, at the provincial level, at the national level, and at the global level. I hope we will see, in the immediate future, this futurizing of political processes, of educational processes, of administrative processes, so that the future will be brought back under our control. It can be done and I devoutly believe that you people are responsible for doing it.

Thank you very much.

HOW A CONSUMER - ORIENTED COLLEGE RESPONDS TO STUDENT LEARNING NEEDS

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I'm going to try to take a very pure stance about what community based education is, and what performance oriented education is because these things have to do with being responsive. The plea I'm going to make is that what we should do as people who represent Institutions and learners is to do exactly what we ask of learners in a performance oriented program. First, analyse where we are; what do we know; what do we do well; what are our strengths; and what are our weaknesses? Second; where do we want to go? Third; how are we going to get there? That means analysing the constraints.

How do you organize for responsiveness? It's not as simple as I thought it would be, at least. It's not just a matter of philsophy, it's not believing that there is a certain way to do things. It's much more than that. It's how you govern. It's what you do with authority. It's who you give authority to. How much to give to students. How much to give to communities, so you have them on advisory boards? I say that doesn't wash. The last time I saw people on advisory boards, they were bought off, they weren't getting authority. They were being used. They liked that alot. I mean it works and it plays in Hoboken. But at some point it's not going to play anymore because these are intelligent people. They want authority. So how you govern is a fundamental measure of whether or not you're community based, and whether or not you're responsive.

How do you finance? What to spend you money on, and in what order? Do you spend it on teachers before you spend it on finding out what students want to learn? That's very important, because if you have, your chances of being responsive have just taken a severe belt in the head. If you've already invested in the learning resource, you're in a different business. You're in the business of allocating out what you already have. Now that's okay, as far as I'm concerned. I'm not here to say that's not okay, I'm just here to say I don't think that is as responsive as you can be.

How do you treat learners? What kind of authority and responsibility do they have, and where do they appear in the organizational structure or the processes that you have? What kind of rights do they have? How do you staff? Do you staff to get the maximum out of the resources of the community you live in, which in my mind implies a certain kind of full time staff.

What do students come to? Essentially a cornucopia of resources that you have bought and paid for? I would say, that for my purposes, for this conversation that the resource structure behind a teaching institution is fundamentally inimical, or hostile-systemically hostile-to a resource structure that might be behind an institution that saw as its mission the support of learning. I consider those missions to be two very different things. They do intersect. They can merge, but I think the systems, the resources, the way you allocate your resources to one can be very hostile to the other.

If we choose to become more community based or more performance oriented, or both, we should analyse what our institutional systems do. We must examine what impact they have on governance, on financing, on learners and on how we staff, because without answering those kind of questions I don't think you can do much more than shoot a pilot program out there and hope like hell it works. If you've got high energy people, you have a chance.

Let me tell you a little bit about the Community College of Vermont, which I represent. This may bring some of what I have been saying to ground.. I'll try to be as brief as possible, because I don't think it's really what you're here to hear, although I love to talk about it.

It began in 1970. We began outside of any organized system of education in Vermont, on a Federal grant. Our mandate was simple: take education to where the learner is; make education responsive to the needs of the learner, and to use existing physical, human and programatic (if that's a word--it was in the grant) resources. That was it. The orientation was towards low income people which is 75% of the State of Vermont, so we thought we had a fairly good shot.

We started out by going around to talk to people. We weren't going to give credit. We weren't going to get into any of that business. And we found out--in the union halls, in the Head Start programs, and in the low income groups and everywhere else. Here I was with my Masters Degree. Clearly a man of the people. Telling them they didn't need credit. Well, the message was clear and immediate and we immediately tried to stitch up arrangements so that people could get credit.

Essentially we had two or three years outside of the system. We were a commission of the Governor's Office. That gave us two years--I would say tremendously important years--to try, to fail, to fall down, to stand up without anybody saying to us, "Have you made it yet?" I just can't underestimate the importance of that. It was very important.

We received a tremendous amount of help from our Federal Government and two years down the road, we found ourselves serving about a thousand people a year. Then we merged with one of the two systems of higher education in the Vermont State College System. At that point we were serving, as I said, a thousand to fifteen hundred people a year. We had about thirty staff and we found ourselves penetrating rural communities in about seven of the fourteen counties of the State. Since we joined the Vermont State Colleges System, we have developed and had approved what we would call outcomes oriented competency based degrees which I'll talk about more in a couple of minutes.

Student Body has grown by a factor of eight; we have become a State Institution in terms of money from the legislature as well as certification from the Board; and most incredibly, to other people as well as us, we have been fully acredited by the same groups that acredit everybody else, which I guess ten years ago or eight years ago, I didn't think was possible. So we find ourselves in 1976 in an institution, or an organization perhaps, if there is a difference, with about 55 full-time staff, employing 600 to 700 community faculty a year, serving about four thousand individuals, and providing eight thousand course places in a year, in about two thirds of the State.

I think that, as I go on, my remarks will make clear that the major problem with this kind of a thing is not necessarily the educational issues of standards and so on. The major problem is really an issue of logistics. How do you keep track of what's going on, which gets back to the authority question.

Initially, when we addressed the question of our educational processes, we felt that there was really three questions which I think can be used in any organization. When do you want uniformity or sameness? When do you want consistency, which I would say is a commitment to a process. Several bases will be touched every time, but how you get from base to base is up to you. And when do you allow for complete discretion on the part of the individual - the professional involved? In your organization, in terms of governance, financing, and educational systems. These questions must be answered. If you can answer these three questions in the areas of education and governance specifically, because I think financing runs through both, I feel you would begin to get at a strong organizational structure.

My notion of a strong organizational structure that responds to community needs is that it is something like a very thick piece of rubber. It's not brittle. It will break. You can tie it in knots and it's got tensile strength;it'll give, it'll ebb, it'll flow, it'll go with people but it has substance to it. It's not completely negotiable and it's a metaphor. That's the best I can do.

So we wanted to be responsive to the needs of the community and what did we do? Well, first we had to make links all the way down the line between over use of resources and our educational posture. For instance, we knew that we wanted to use community faculty. That means not full time. That means they do something else for a living in the community. That may be teaching, but not for us. We want to use them. That's our learning core of people.

Also we want to take a whole bunch of the professional skills that faculty have had, traditionally, and we want to separate them out. For example, such things as curriculum development and organization, and advising we want to take out and give to our full time staff. We want our instructors to instruct and not have the responsibility for all these other things. They do them all, naturally, but we want these other things to be full time staff responsibilities.

If you want to be responsive you have to set up all of your systems--governance, financing and educational,--in support of each other. There's no way you can say you have a responsive organization if you proceed to set up a resource allocation that invests in resources before the learning need is known. You might be good guessers, and you might survive for a while, but I'm going to argue that you have to know what it is that the people want to learn every time, and that's better than we do, before you invest in the learning resource.

Well, if you're going to use community faculty, which I think is essential because it keeps you in touch with the community and its worth and it keeps the community in touch with you, then I think you're drawn to outcome evaluation. Controversial evaluation, as we all know, is based on the credibility of the person doing the teaching. I have an MA or a PHD and I say that this person did B work in my course. And after all Granada

College hired me to do that so it must be alright.

We didn't have such faculty and didn't particularly want them. We don't have libraries, we have the community's libraries, and we don't have the facilities, we don't have the standard inputs. This meant that we had to go to an outcomes evaluation. The only place where it all comes together at the Community College of Vermont, in terms of quality and in relationship to the individual and the learning that's going on, is when you look at what has a person learned. We don't do it as well as we should, and it's damn difficult to do.

I would say, if you want a responsive college, that, my hard line is that you have to invest the authority in the community to provide alot of the learning environments and the learning support resources. You have to talk about learning outcomes because that supports and allows a person who is a practitioner to teach and feel that they're in a sequence and a flow that they can understand. They understand outputs, by the way, far better than educators do.

Second, if you want to have a community college that responds to the learning needs of students, you have to allow for students to shop around, spend time, learn, float in, float out, without having to commit themselves to a degree program, but at the same time have the knowledge that when they do commit what they've been doing may very well count towards a degree. We call it shopping around. We find that nine times out of ten, these elusive community people, if you say that they've got to sign up for an associate degree program, they've gone. They won't come back. I'm a housewife, I'm 38, I got four kids, and you're telling me I've got to be a full time student and get an associate degree. Just more than I'm willing to do.

So you set up an entry structure so the person can enter any time and leave any time and take courses. They can shop around for the rest of their lives, or they can gradually hone themselves to the point where they say I'd like an associate degree in Human Services. At which point they should have the right to take all the learning they've done before they came to the community college, and the learning they've done at the community college or through it, and try to transfer that or negotiate that into a learning contract. You shouldn't be closing doors. I think the distinction between community services and creditable education is just a terribly unfortunate distinction. The only one that's equally fortunate, in my mind, is the distinction that most colleges appear to have between student services and teaching. What thinking ever led to putting counsellors down the hall separate from instructors? It defies logic and it assumes things about learning that I would never assume.

Third, to be responsive to the needs of the community means that they know you, they feel you, they understand you, and all your learning sites are in the community. It's very simple, but again it's very difficult logistically. And you have to be truly accountable to the community if you use their facilities. Now accountability is a word that is often used by one set of bureaucrats to get another set of bureaucrats to fess up to what they've been doing with first set of bureaucrats' money. That's all it is. And it assumes a divorce between the institution that's doing the spending and the reality of whatever it is they're supposed to be spending it on. On the other hand our institution has to be tremendously accountable at a whole different level, the same way you're accountable to your neighbour. If we go into a church, or a person's home, or a high school, and don't take care of the facilities, or are not polite, or are not whatever it is that goes down in the community as being okay, then they'll close the doors. That to me is a much more compelling form of accountability. If we spend our money badly, they're going to know it, and no number of reports is going to gloss it over. I don't think we have any claim on honesty or anything else; I mean, you

The use of community learning sites and community faculty are two very important requirements for responsiveness to the community and the learning sites especially. People in the States, and I think in all the Western Hemisphere place great value on their property, too great a value probably, but using their property for learning purposes is a very effective form of accountability. It keeps you responsive because it keeps you asking that basic question every time you want to use a learning site. You've got to go back and go through the 'How did it go last time? Did I do my job well? Are you still happy with us?' And that's a very elemental question that has got to stay right up on the table. I would say that the farther you get away from that elemental question, the farther you're getting away from the stance which is going to keep you responsive.

Finally, to be responsive, what kind of authority do you give the community for the awarding of the degree? We have what we call local revue committees. There's a teacher of the area that the student wants the degree in, a practitioner in that area, another student in that area, and then a member of the community college staff. That local revue committee awards the degree.

Now what's the degree? The degree covers ten areas of competence. We're not talking about instructional objectives. We're talking about student-referenced competencies of a broader sort than specific objectives. A student might make assertions of competence against one competence area, say analytical skills. Then he documents and proves his competence.

There are ten areas of competence like that. They have to go through all ten, and they can meet with their revue committee any number of times. First they meet to find out what a student already knows as prior learning, and that is assessed against the competencies. Then they construct a learning contract. The student proposes a plan and the committee says "If you go out and do those things and come back--that sounds okay to us. That looks like an associate degree."

The 'how much is enough' question is referenced against the student's goals, and the reality that the student wants to go into when he or she leaves the college, if ever. We don't have any institutional exit standards. We have an institutional exit process. You've got to go through the contracting process and you've got to go through the local revue committee.

Now that committee, and the contracting process, is not wildly different from what I think alot of institutions are doing. But, to go back to the theme of responsiveness, once again, what we're saying is: "Community--your standards, your sense of how much is enough, your competence, you quality, that's ours too, you see." Frankly, if you're asking them to teach and you're asking for their facilities, and you're asking them to be your learners and your support base, and you won't give them that final piece, which is what it's all about, then really you're ripping them off, in my mind.

So if you want to be responsive and you're talking educational processes, I think you've got to give away or share really gutty kinds of authority.

How do you staff? We talk about administration and learning support. Learning support people work with students, access their needs, find appropriate learning resources for the students, find appropriate learning environments for the students, help the people that are doing the teaching to organize their information.

I may have been a Vice-President of a bank and as competent as anything, but I sit down to work with four students and I may just go blank because I've never thought about organizing my information in a way that's useful to them. So we have people who are not content specialists, if you will, but are methodology specialists. They can help people collect and refine and list and organize what it is they know, for a person who's in a manual trade or whatever.

We open the year and we have committed 80% of our resources just like everybody else, but--we haven't committed them on instructional resources. That's the thing that we've held back. That's the 20%. We've committed the resources on counselling, finding teachers, finding learning environments, finding all these other things that are the responsive systems. That's where our money goes. We hold out on the 20% so that all through that year, month by month, we can find out what it is that our students want to learn, help them find a learning resource and a learning site, and then put the bucks on that. Time, and time, and time again. The logistics are a nightmare, it's not thrilling. But I think it's important for professionals to share in the kind of elemental dirty hard work that ain't that exciting but that keeps institutions going. I think that's very important. Nobody should have to do it all the time, but it does keep you in touch (a) with your community and (b) with what you say you're about, philosophically.

So thats what our learning support staff do. A way of looking at the role called learning support is that it is co-ordination of instruction and co-ordination of student support. These really are the two concepts there. There's nothing new in any of this. What we did was take all the old roles and clustered the skills differently. I wouldn't want to dignify this process by calling it functional analysis because it happened one night at my house after a bottle of wine, in 1970, about 10 in the evening. We said what do counsellors do? Well,...; and we said what do teachers do? Well...; and we took that stuff and we just clustered it differently. We didn't invent anything except a different slice of the cake.

And what do you end up with? What I come up with is that our system and processes - financing support each other.

I look at traditional campuses. I said to myself, "Why are campuses so damn difficult to change? Why can't you just go in there and make sense and change things?" I realized after a while that they are very strong, that they have a more "brittle" strength than I wanted, but they're very strong, and I wanted that sort of strength for my college too.

They're very stong because every system they have on a campus - how they employ faculty, how they allocate space, how you spend your budgets, what you spend your budgets on, what order you spend it on - all of that supports itself.

Look at how students get scheduled and how the yearly calendar works. The availability of faculty and the yearly calendar are obviously two tremendously important things which have to correspond with each other. Then students line up in relationship to the imperatives laid down by the yearly calendar and the availability of faculty.

You can't change the yearly calendar. We could say, "Why shouldn't we go to monthly learning modules and forget all this semester stuff?" Well first of all, you'd have to change how you finance, and you'd have to change how you use faculty. And you would have to change all the other systems to support that change, or after a while it will go away, because these things on campus support each other very clearly.

What we did, having seen this, was try to set up a set of mutually supporting systems that would give us the same kind of strength. It's not a Maginot line kind of strength. It's the rubber-band kind of strength. How we allocate money has alot to do with how we see instruction. How we staff has alot to do with how we allocate money and how we see instruction and how we see learning--and so on. All these things line up.

I don't think you have anything but an outcomes evaluation system when you're casting the net as widely as what we have chosen to do in terms of what your inputs are. Now I think I could be argued right into a corner by that, but for me it's essential. You've got to have a place that's beyond what I call the "We Say So" approach. That is, when somebody says, "How do you know Johnny learned anything?", you say, "because we say so. Because I've got an M.A. and I gave him a B+, and he learned it."

For purposes we aren't arguing that our teacher has an M.A., and we aren't arguing that our student learned in a certified laboratory, and we aren't arguing that we have a great library, or anything. We're saying that our library is the best that our community has to offer. That may not be very good. We've got to talk about what they learned. I don't think it's a philosophical issue. I think it's an essential budgeting issue. If you stop talking about what people learned then the whole thing starts to come apart. You're thrown back on the quality of your input. How do you measure the quality of teacher before he or she teaches if you throw away the external standards of degrees? What we finally did look at campuses, look at the budgeting systems that campuses have and how they interweave with each other and we did the same thing. Not the same way but the same kind of thing.

And all this was based on the premise that we can't survive, we can't be there to help students learn without co-operating with businesses, agencies, social organizations, industries, other colleges, and without getting individuals off the street to help us make the college go. We set it up so we can't operate unless all those things happen. And you see from my point of view, that keeps us honest, and it keeps the community involved not in an advisory capacity but in a real capacity.

The other part of responsiveness, and I've left it out really today so far, is governance. Because how you govern, is crucial. I wish some of my staff were here today to vet what I'm saying, because I'm pretty much of a table pounder - in the absence of procedures you have to pound the table alot.

Here we are in an organization. I work in Montpelier, which is in the center of the State, and within a hundred mile radius is where our 55 staff work with all these students. How do I treat them and how do they treat me?

This gets back to uniformity, consistency and discretion and trying to define where and when. When is he insisting on uniformity? When is he saying--and are we agreeing--that we need a consistent process? The analogy I used this morning is the due process concept in the law. Again the key idea is not that the right decision will be made by the jury or the judge but that due process guarantees that you will get the right to these various things - trial by jury or peers, etc., etc.,.....That's what due process is. That's the guarantee of justice; not that they will find correctly.

We try to look at our degree process in the same way, where we are insisting on certain bases being touched. That's where we're looking for consistency - not uniformity, but you don't have all the discretion in the world either. There are some bases you've got to touch. You got to fulfill each of the competence areas and you've got to go to the local revue committees.

Then where do you want discretion? That really is in the construction of the actual learning experiences. That is up to our professionals and up to the community people and up to the students. I don't check the course lists. I don't say, "Don't offer this or that.....whatever the hell it is. I'm not sympathetic to alot of things that our students like. However, I don't think that I should sit in Montpelier or anywhere else and tell our professionals what they ought to allow to happen educationally. I just don't. We set up the process. I believe I should enforce the process, and I do, but I don't think I have the right to say don't offer that again unless it's illegal. We've never done that either."

So how do you govern? You have teams, you use teamwork. We're in a fight with our system right now that all of the people in our organization should get the same fringe benefits, the same vacations, the same sick pay, and everyone says, "What's important about that?" Well what's important about that is that I don't believe you can have a team work together and give people different benefits. I just don't think so. We're discussing it right now with the Chancellor's office.

There are messages in each one of the things you do to keep a team together. How you treat that team, what kinds of rights do they have? They're 400 miles away or 100 miles away and they never see me anyway except once a month. They've got alot of autonomy whether I like it or not. So I have my definitions of uniformity and consistency and discretion and this lets them know and me know what the issue is, and it lets the communities know what the issue is. That has alot to do with whether your organization is responsive or not because if I'm on the front line 200 miles down the road from Peter Smith, and I don't know whether I can tell the student yes or no about something then I can't be responsive with that student. I can make some guesses; I can bitch about Peter Smith; and do lots of things; but I can't be responsive.

We have a very lateral kind of an organization where most of the people on the staff would say Peter gets to make some decisions that we don't. There are some non-negotiables. Then there are some things that are eternally up for grabs, and we talk about them all the time. I would submit that if you want a community-based organization that's going to be responsive to consumers, you've got to treat your staff the same way. You've got to be responsive to them, you've got to fall back to what I call the due process kind of consistency. That's a map. That's like a professional map that I as a field professional can use.

The question that comes up in alot of peoples minds is, "Hey Peter, how does it really work?" Well, as I was telling somebody the other day, it talks a hell of a lot better than it works. For my money creating a success is just no big deal, but making it work, maintaining it, parsing it out, understanding it, so that it doesn't depend on your energy or somebody else's energy alone but it's based on some knowledge about learning and participation and how we treat people. That is a hell of a lot of work, and at that level as well as the educational level our work is just nowheres near done, so I can't end on a resounding upbeat that we indeed have figured out the way to slice bread in Vermont. We bake it, and it tastes pretty good.

There are learning experiences we can't offer, there are teachers we can't find, there are students we lose because we lose them, there are people who don't get jobs that they thought they would, there are students that think that what we are doing is for the birds, and we try to help them go to someplace else.

When it works what are our strengths? We make good matches between learners and learning environments, which I think is the most badly overlooked asset. Colleges with buildings say that 90% of the learning environment is in the buildings. Buildings are only one facet, obviously. We make a good match between human and material resources, learning environments, and the needs of students. We have a tremendous amount of flexibility. We can help people decide for a high degree of success, where they are and where they want to go and how to get there. And when it works, we're hot and when it doesn't we're not. Thank you very much.

THE INSTRUCTIONAL CLINIC:
STAFF DEVELOPMENT IN ACTION

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Staff Development in Perspective

Staff Development has become the cliche of the 1970's. In 1971, the President's Advisory Council for Education Professions Development undertook a survey of the personnel needs of the two-year college. The project report, Teachers for Tomorrow,[1] identified staff development as the challenge to be met during the current decade. In the past five years, literally millions of words have been written endeavoring to explain what staff development is and how it works. What, precisely, is the status of staff development today?

Four hundred and seventy years ago, Machiavelli, in The Prince, said: "... it ought to be remembered that there is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than ... the introduction of a new order of things."[2] His insight summarizes the status of staff development in 1976. The idea is so new and unrefined that the variety of activities conceived in its name is bewildering. A review of current literature[3] indicates that many colleges interpret staff development to be activity which occurs only during interruptions of institutional routine. Special consultants often are engaged to provide new information or insights. This author described such a program in mid-1974.[4] However, there are several problems inherent in such an interpretation.

In the order of their emergence, the problems inherent in externally based staff development are: cost, acceptance, and integration.

The 1970's are a time of financial retrenchment. When college budgets are reduced, funding for consultants, workshops, and travel is usually the first to be cut. Staff development involving factors external to the college is reduced accordingly. Second, special activities involving "experts" who are not members of the college community imply inefficiency on the part of the community members. The result of such an implication is skeptical reaction by the participants. Finally, even if the activities are well received, the presentation of new ideas or behaviors is only a starting point. Unless the information presented becomes part of ongoing institutional practice, it remains unrealized potential. In essence, current staff development trends seem to suffer from a lack of congruence with the realities of the two-year college of the 1970's.

The preceding analysis is not intended to deny the value of externally based staff development. Rather, it serves as an introduction to a model designed to strengthen its weaknesses and realize its potential. For the past year, Hagerstown Junior College, Hagerstown, Maryland, has been developing an Instructional Clinic. The clinic has proven to be the missing ingredient in the college's staff development program. It is revealing to examine how the process operates.

The Instructional Clinic: Rationale

For staff development to work, two conditions are required. First, the staff of the college must recognize that there are problems requiring development. Today, most college communities are aware of the everpresent existence of change and are willing, under appropriate conditions, to support and participate in a program of development designed to meet the challenges posed by change.[5] Hagerstown, for example, responded to change with five years of externally based staff development.

The second, and more important, condition required for staff development to work is for the program to be congruent with the needs of faculty and staff. A development program must foster an institutional climate where staff members may work toward realizing both personal and professional goals. Cohen has summarized his research into work satisfaction by saying: "... administrative attempts to influence instructor behavior have little effect unless combined with institutional support for faculty endeavors. ... It is most important to understand what faculty themselves feel they are producing. Only this factor can be appropriately linked to the instructors' satisfaction ... ."[6] Does the Instructional Clinic meet the problems of shrinking resources, acceptance by the college community, integration into institutional procedures, and congruence with staff needs?

The Instructional Clinic uses a development process which draws upon resources which already exist within the college. The procedure is systematic and outcome oriented. It begins by analyzing the concerns presented by the members of the college community. Assistance in meeting the concerns is drawn from the expertise possessed by other members of the community. Obviously, the cost involved is minimal. Because it is colleague working with colleague, extra remuneration is not at issue. Also, acceptance is intrinsic. Members of the college community raise the concerns, their colleagues work to resolve them. No suggestion of inefficiency is made, no offense taken. The process is pragmatic - solutions are adopted because they emanate from the environment and they work. From their gestation, the strategies are part of the institutional fabric. Finally, much of the debate surrounding the ideal source of a staff development program is artificial. The needs of the members of the college community are the only source if the program is to be accepted. In essence, the Instructional Clinic is capable of resolving the problems inherent in externally based staff development.

The foregoing model might be perceived as sound in theory but impractical to implement. Hagerstown Junior College has had a functioning Instructional Clinic for the past year. The following assessment of its structure and outcomes should allay concerns regarding its utility.

The Instructional Clinic - Design and Results

The Instructional Clinic began as a facet of externally based staff development. Hagerstown Junior College and Lord Fairfax Community College, Middletown, Virginia, agreed to conduct a two year inter-visitation program designed to foster idea exchange. In May, 1975, members of the Hagerstown staff observed the Lord Fairfax clinic in action. In August, 1975, Dr. Hal McMullen, Dean of Instruction at Lord Fairfax, directed a workshop at Hagerstown which introduced the topic. Participants in the workshop decided to implement the clinic idea.

The essence of the Instructional Clinic is simplicity. All members of the college staff were notified that a needs assessment meeting was planned. The session was held as part of the college's fall workshop with attendance voluntary. The first meeting was attended by one third of the members of the college staff, including representatives of the Office of Instructional Affairs, Office of Student Affairs, Audio-Visual Services, Computer Center, and five of the college's six instructional divisions. A consensus technique was used to gather and prioritize concerns. Finally, the mechanics of the clinic were outlined.

The process concentrates on results. Concerns were analyzed according to their prevalence among those in attendance. A faculty member volunteered to coordinate the analysis of each concern. The college administration accepted responsibility for communicating the time and place of each session as well as providing whatever consumables were required. The sessions were scheduled twice per month. Their location varied depending upon which faculty person coordinated. The clinic spent little time on elaborate organization and concentrated, instead, on meeting the expressed concerns of those involved.

During the academic year 1975-76 the Instructional Clinic met fourteen times. Attendance averaged twenty persons. Approximately one-half of the college staff attended at least one clinic. Nine issues were analyzed during the year with the January workshop meeting serving as a mid-year assessment of the progress of the clinic. Finally, the May workshop meeting was a general review of the clinic. Consensus mandated continuing the process during 1976-77 so a list of concerns for the new year was prepared. Procedurally, the clinic was problem-free and is now an ongoing component of staff development at Hagerstown Junior College.

The most significant aspect of the clinic was what it produced. The first concern analyzed was the lack of reading skills on the part of the college's students. Several faculty discussed strategies for coping with reading deficiencies. The college's reading specialist agreed to prepare a readability index which could be applied to all text materials. The model is now available. All faculty may determine the level of difficulty of current or proposed course materials. Within the next year, the model will be computerized to increase accuracy and speed of processing.

The second concern analyzed was testing. Items discussed were how reliable and how valid are the tests being used. A member of the college's mathematics division designed an item analysis model so that faculty could assess the validity of their testing. Further, the chairperson of the college's science division, in cooperation with a member of the engineering division and the director of the computer center, put a reliability equation on the college computer. The K-R 20 formula is now available to all faculty desiring to assess the reliability of their testing. Finally, during the summer of 1976, a series of statistical models including the Chi-Square test and the Pearson Product-Moment correlation equation will be computerized to assist faculty in evaluating the outcomes of their teaching.

The third issue analyzed was the unevenness of research skills on the part of the college's students. Several clinic sessions evaluated techniques of library research and preparation of the term paper. Consensus called for the development of audio-tutorial modules explaining the use of professional literature and preparation of the term paper. The term paper module has been completed. The professional literature module is a faculty summer project and will be ready for use in the fall of 1976.

Mediated instruction was a concern discussed during several clinics and a number of strategies were advanced.

The most exciting outcome, however, concerned instructional evaluation. One faculty member displayed a video-tape of a student evaluation. Another faculty person questioned whether the same technique could not be used to assess teaching effect. The college's coordinator of A-V Services described a model designed to achieve the desired end. The faculty member used the model and reported the results in a later clinic. Several faculty were interested and requested that they be taped. The word has spread and the model is becoming quite popular.

Several other discussion items could have been included. The point, however, has been made. It is conceivable that all of these concerns could have been components of an external staff development program. Cost and time would make the undertaking monumental. The Instructional Clinic, however, met the immediate concerns of the staff, at minimal cost, with the results becoming an integral part of the college. Furthermore, other staff may use the models and discuss their impact with those who designed them. Herein lies the true value of the Instructional Clinic.

The Instructional Clinic: Evaluation and Future Directions

This author, in an analysis of Hagerstown's externally based staff development program, presented a tri-partite theory of evaluation. It consists of formative, summative, and personnel evaluation.[7] In the case of the Instructional Clinic, only the first component is relevant. Formative evaluation may be described as the appraisal of material or procedures during their gestation. The clinic is in the development stage. It is germane to assess what has occurred and what might evolve.

Formative evalution asks three questions regarding the process being examined.[8] First, what results were accomplished? In short, the Instructional Clinic produced two results. It brought members of the college community together as a development team. Also, it produced substantive solutions to institutional concerns. Second, how effective were the results? Effectiveness needs to be examined from two perspectives. First, the products of the clinic work; they meet the needs of the individuals who initially raised the concerns. Second, and more important, the development team has demonstrated that it is competent to solve problems that arise. Finally, what modifications are indicated that would increase the effectiveness of the process? Several changes are planned for next year. Communication regarding the clinic will be formalized. A brochure describing the process and including the first semester's topics will be printed with all college staff receiving a copy. The clinic sessions will be video-taped to increase participation. The tapes will allow those who cannot attend to review the process as well as the product. The final modification is crucial. A committee will be appointed to integrate the externally based staff development program and the clinic. If the integration is successful, the college will have an ideal blend of topical and problem oriented staff development. Next year, a summative evaluation will be conducted to ascertain the viability of the integration.

In conclusion, Dr. Norbert Ralph has provided an assessment of development which summarizes Hagerstown's formative evaluation. He said: "Development means dealing with experience in increasingly sophisticated and complex ways and being able to integrate this complexity into stable structures."[9] Externally based staff development is a beginning strategy for coping with change. It indicates a concern for development but also a need for assistance and direction from outside the college community. The Instructional Clinic demonstrates increasing sophistication by maintaining the concern for coping with change but keeping responsibility for content and direction within the college community. The formative evaluation reveals a development team solving complex problems and integrating the results into ongoing institutional structures. Assessment of the clinic indicates that it has succeeded far beyond initial expectations.

In essence, external staff development and the Instructional Clinic both are designed to insure that the two-year college continues to fulfill its mission. As Cohen so cogently points out: "The role of the community college in [development] is to put faculty and staff in a position where they don't feel threatened, to help make them satisfied with their jobs. In such an environment a sense of responsibility to the students, to the profession, and to themselves will flourish."[10] No more needs to be said.

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THE COMMUNITY COLLEGE: TEACHING BASIC SKILLS

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Dr. Elliot is Assistant Professor of History and Political Science at Miami-Dade. He is an authority in American government, with a research interest in practical politics. A prodigious writer, Dr. Elliot has authored nearly 100 scholarly articles, book critiques and film reviews. For the past several years, Dr. Elliot has played a leading role in community affairs. Working as a volunteer in his first political campaign at age 16, he has been a candidate for public office, a speechwriter, research assistant and campaign strategist for a United States Senator, a key advisor to a large big-city mayor, and a consultant on numerous issue-oriented campaigns. President of the Community College Social Science Association, he is an active spokesman for a new approach to teaching and learning in community colleges.

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THE COMMUNITY COLLEGE: TEACHING BASIC SKILLS

By

Dr. Jeffrey M. Elliot *

The Learning Center at Miami-Dade Community College -- North Campus opened in the Fall of 1974. The acronym TLC ["Tender Loving Care"] was purposely designed to express not only its function, but its atmosphere and attitude as well. Our overall objectives included the gathering of academic support areas, previously scattered throughout the campus, under one roof to better utilize staff, materials, and equipment.

Since Miami-Dade is an open-door institution, we have many students who lack some or all of the basic skills required for success. In addition, with an enrollment of over 20,000, our freshman classes often average 40 to 45 students, making it impossible for faculty members to provide individualized instruction to all those who may need it. Moreover, with the size of our enrollment, we can expect a high percentage of students with rather severe learning disabilities or emotional problems which interfere with academic success. For example, the statistics indicate that 40 percent of our entering freshmen are reading at a ninth grade reading level as measured by the Nelson-Denny test.

Miami-Dade has the highest foreign student population of any two-year institution in the United States. With

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*The author wishes to thank Professor Kathleen MacKay, Director of The Learning Center, for her assistance in the preparation of this paper. Also, special appreciation is extended to Mr. Rodney B. Forrest for his participation in this workshop.

over 800 visa students from 57 countries, all with varying degrees of English proficiency, the necessity for specialized assistance is obvious. Because of the large Cuban population in the Miami area, we also accomodate over 1,300 Spanish-speaking students, who are frequently in need of individualized instruction.

The purpose of TLC, as expressed in our rationale, was to provide as much flexibility and range in instruction as possible within the framework of an informal, pressure-free environment. Through a variety of teaching/learning techniques, students needing practice with basic skills, students progressing normally, and students with exceptional abilities and special interests would be served. We realized that students often find it difficult to obtain the specialized instruction which, for numerous reasons, they may require. The Learning Center, therefore, was designed to respond to these needs as well as to provide students with counseling and testing services, vocational information, and basic referral to other areas on campus which could be of assistance. By offering a broad range of services and experiences in a positive learning environment, TLC could help students to learn more effectively and to realize their individual potential.

The Learning Center was conceived with six basic goals in mind. First, the Center would coordinate its efforts among disciplines within the program. This involved providing integrated materials, working with the "whole" student rather than an isolated subject area, and sharing relevant diagnostic data. Our second goal was to make facilities available for the learning of and practice with basic skills. Third, we would provide assistance to those individuals having specific needs. We wanted to avoid becoming labeled as strictly a remedial center by providing supplemental instruction and enrichment materials. Our fourth goal was to stimulate interest and motivation in learning. We did this by providing alternate strategies and resources for non-traditional programs. Moreover, we attempted to afford students an opportunity to do peer teaching. Goal five provided for assistance to staff members by viewing TLC as a support service. Finally, our sixth goal provided the mechanism for ongoing growth and change through periodic evaluation.

We were fortunate at Miami-Dade to have an ideally located and designed building to house the Center. The Innovations Building was opened in late 1972 and was originally meant to be a place to test and validate instructional strategies to be implemented elsewhere to increase the mutual development of faculty and students. The building plan was based on flexible, free-flowing spaces with accessibility to instructional materials. Furthermore, the building was located in a major traffic flow area of the campus. The hub of activity in the building is an audio-visual core from which equipment and materials are distributed. The circular building was easily adapted to serve our needs. In fact, it was almost as if it had been designed for our program.

The center core of four rooms became the writing, reading, mathematics, and testing laboratories. The perimeter conference rooms were ideal for tutorial assistance and various programmed materials. The small conference rooms were equipped with dial access retrieval systems making it possible to provide sixty-four programs automatically through the individual student listening posts. In addition, thirty-six learning carrells equipped with dial access stations were installed. These were distributed in the reading and mathematics laboratories and in the central reception area.

One small conference room was reserved for video-cassette play-back machines. Several campus-produced video-tapes were available, as well as commercially-prepared tapes, including "The Ascent of Man Series" produced by the British Broadcasting Company. Faculty members were urged to prepare lectures for video-taping through our audio-visual production facilities. Other small conference rooms were assigned to counseling, the international student advisor, career adjustment, and students with physical disabilities.

The staffing of TLC was accomplished in several ways. We employ a tutorial staff of peer teachers -- highly qualified students recommended by faculty members. These students are paid the regular work/study salary. We have found that our student assistant/peer teachers are the backbone of our staff. They can understand and relate to the problems of other students much better than can our professional staff. They are committed to the program and enjoy a high degree of prestige and respect on campus both from the faculty and other students.

The Learning Center, by offering credit courses, has generated enough full-time equivalent students to allow us to assign class credits to English faculty for work in the Center. Presently, we have seven English professors who work approximately forty hours per week. The mathematics department has provided faculty for individual tutoring by assigning project points and released office time. Five counselors are assigned by the counseling department as part of their work load for a total of twenty hours per week.

Our staff is well-trained in facilitative teaching/learning. Although we depend heavily on educational technology and a variety of teaching machines that are available for self-paced instruction, we do not feel that we are dehumanizing the educational experience. Rather, we believe that we are personalizing and individualizing instruction. We employ the Auto-Tutor, the Audi-Scan, cassette recorders and playbacks, and the Borg-Warner System 80. All of this equipment is easy to operate, almost impossible to destroy, and designed to be used for programmed, self-paced instruction. These machines are not subject to moods, migraine headaches, or muscular spasms. They do not mind repeating information. These machines are available to students at convenient times. Obviously, we must select and use the equipment critically. We must always make sure that we are receiving the maximum benefit from the hardware that we use.

The evaluation process in any teaching/learning situation is always the most difficult and the most important. We have initiated computerized attendance records as well as evaluation tools for peer teachers. In this regard, as each student enters TLC, he/she fills out an IBM card. We record the student number, the date and time of day, and the materials and equipment used. When the student leaves, we record the time of departure. Each tutor has a code number which is also marked on the card. From these records, we are able to determine the traffic in the Center by days and hours, and the frequency of use of various materials. At midterm and at the end of the term, we ask each client to respond to a five-question survey of his/her experiences at the Center. We are presently working on an evaluation instrument to measure whether or not the students who have been served in the Center have exhibited improvement in class work.

As we begin our second term, in some ways still reeling from our popularity and our growing pains, we are attempting to evaluate, modify, re-organize, and learn from our initial experiences. Our records indicate that we assisted 1,595 students in 4,173 contacts for a total of 4,485 student hours in the first twelve weeks of operation. A random sampling of student reaction to experiences in the Center indicated that 89 percent felt that they had benefitted from TLC. Many of the comments proved helpful and encouraging. For example, one student remarked: "When I came back to college after ten years as a housewife, I was terrified. You not only helped me with a refresher course in grammar, but you restored my faith in my ability to succeed. Thanks!" Or this comment by a foreign student: "I came to the United States only four months ago from Persia. Without TLC, I could not have succeeded in my studies." One of our Cuban students was elated with his conversation class which was designed by two peer teachers to present structured conversation to small groups of foreign students six hours per week. She commented that her parents and friends speak only Spanish and that she was delighted to have the opportunity to study conversational English.

We feel that we have made considerable progress at TLC. We have designed and initiated faculty tours of the Center during which the various faculty actually use the available equipment. We have met with the major divisions and departments to describe our services and to solicit help from faculty members. We have worked with the educational research specialist on campus to develop effective evaluation procedures and to evaluate our record-keeping operations. We have purchased a host of new and exciting instructional programs to assist students. We have organized and presented workshops for our professional staff and peer teachers. And we are continuing a rigorous in-service training program for all those who are associated with the Center.

Despite these successes, however, we are the first to realize that our work has just begun. We are deeply concerned with the development of sound diagnostic and evaluation instruments. We are constantly seeking new and more effective equipment and materials. Looking at the program in retrospect, we firmly believe in what we are doing. We feel that the concept of self-paced, individualized and personalized instruction is not only valid, but essential to the teaching/learning process. We believe that our approach emphasizes the process of "learning to learn" and the skills and attitudes that students need for academic success.

APPENDIX

Programs Available in The Learning Center

Audio-Tapes

- Mood Control
    - Sessions I and II -- Your Moods and You
    - Sessions III and IV -- How Moods Affect Your Life
    - Sessions V and VI -- How to Deal with Depression and Loneliness
    - Sessions VII and VIII -- Anxiety, Worry, and Tension
    - Sessions IX and X -- Frustration and Aggression
    - Sessions XI and XII -- Defensiveness and Jealousy
- The Science of Personal Success
    - Lesson I -- Who Are You?
    - Lesson II -- Freedom from Anxiety
    - Lesson III -- Four Basic Rules of Successful Relationships
    - Lesson IV -- Personality Styles I
    - Lesson V -- Personality Styles II
    - Lesson VI -- Communicating on all Levels
    - Lesson VII -- Active Listening and Reflection I
    - Lesson VIII -- Active Listening and Reflection II
    - Lesson IX -- The Art of Using Questions
    - Lesson X -- Building Credibility and Rapport
    - Lesson XI -- Cooling Anger and Wholesale Criticism
    - Lesson XII -- Dealing with Stubbornness and Indecision
- Dr. Leo Buscaglia
    - On Becoming
    - On Change
- Creative Problem Solving
    - Burt the Student
    - John the Research Director

Video-Cassettes

- Write Now! -- 24 - 20/minute programs on penmanship
- How to Fill Out Financial Aid Forms for Miami-Dade Community College
- The Research Paper
    - Part I -- Outlining
    - Part II -- Notetaking and Documentation
    - Part III -- Bibliography
    - Part IV -- Getting Started in Library Research
- How to Operate a 16mm Projector
- Mathematics Programs
    - Review of Factoring
    - $\div$ $\overline{)\qquad}$ Algebraic Fractions I
    - $+$ $-$ Algebraic Fractions II

- Fractional Equations
- Quadratic Equations
- Quadratic Formulas
- Completing the Sequence
- Radical Equations
- Additions/Simultaneous Equations
- Subtractions/Simultaneous Equations
- Cramer's Rule I
- Cramer's Rule III
- Functions
- Exponents II
- Radicals I
- Equations/Three Variables
- + - Signed Numbers
- Solving First Degree Inequalities
- Solving First Degree Equations
- Factoring by Grouping
- Exponents I
- Radicals II
- Radicals III
- Using Properties of Logarithms
- Introduction to Logarithms
- Laws of Logarithms
- Use of Table I
- Use of Table II
- Different Bases
- Order of Operation Grouping

Auto-Tutor Films

- English
  - Basic Grammar
  - Punctuation
  - Sentence Patterns
  - Sentence Fragments
  - Capitalization
  - Spelling Rules
  - Verbs
- Basic Map Reading
- Effective Secretarial Practices
- Proper Business Letters
- How to Write Skillful Reports
- Effective Executive Practices
  - Decision-Making
  - Organizational Practices
  - Planning
  - Delegation
  - Managerial Control
  - Use of Time
- Algebra
  - Semester I: Volume I, II, III
  - Semester II: Volume I, II, III
  - Semester III: Volume I, II, III
  - Semester IV: Volume I, II, III

- Career Arithmetic
- Fractions
- Whole Numbers
- Decimals
- Percentage
- Ratio/Proportion

Filmstrips/Cassettes

- Accounting
  - Business Activity
  - Accounting Framework
  - Forms of Business Organization
  - Accounting Procedure
  - Journalizing and Posting
  - The Trial Balance
  - Operating Accounts
  - Closing Procedure
  - Adjustments to Accounting Records
  - Worksheets
  - Accounting Cycle Review
  - Preparing and Interpreting Statements
  - Specialized Journals
  - Accounting Cycle: A Case Study
  - Merchandising Operations
  - Merchandising Allowances
  - Manufacturing Operations
  - Payroll Accounting
  - Data Processing
  - Cash
  - Bank Reconciliation
  - Cash Budgeting
  - Receivables
  - Notes and Interest
  - Long-Term Assets
- Bergen-Evans
  - Advanced Vocabulary
- Word Craft
  - Elementary Vocabulary

Audio Cassettes

- Basic English Modular Mini-Course (includes workbook)
  - Sentences
  - Clauses
  - Phrases
  - Major Sentence Errors
  - Subject/Verb Agreement
  - Adjectives and Adverbs
  - Pronoun Case
  - Pronoun Reference
  - Frequent Grammatical Errors
  - Punctuation
  - Paragraph Development
  - The Term Paper
- Basic Spelling Skills

- Effective Listening
- Relevance of Sound
- Relevance of Words
- Relevance of Patterns
- Relevance of Listening
- Vocabulary Development Modular Mini-Course
  - How to Use the Dictionary
  - Prefixes, Roots, and Suffixes
  - Words in Context
  - Working with Look-Alike Words
  - Working with Sound-Alike Words
  - Commonly Misunderstood Words
  - Working with Sophisticated Words
- Basic Applied Mathematics Mini-Course Programs
  - Module I - Common Fractions (Addition and Subtraction)
  - Module II - Common Fractions (Multiplication and Division)
  - Module III - Decimal Fractions (Addition and Subtraction)
  - Module IV - Decimal Fractions (Multiplication and Division)
  - Module V - Measurement (Linear and Circular)
  - Module VI - Measurement (Volume and Area)
  - Module VII - Ratios, Percentages, Averages, and Estimation)
  - Module IX - Functions, Relations, and Inverses
  - Module XIII - Determinants
- Mathematics 201
  - Integers
  - Greatest Common Factor
  - Prime Numbers
  - Permutations and Combinations
  - Set Theory - Part I
  - Set Theory - Part II
  - Theory - Set II
  - Mathematics Systems
  - Computation - Base II
  - Computation - Base V
  - Rational Numbers
  - Exponent of Expanded Notation
  - Modular Arithmetic
  - Distributive Property and Clock Arithmetic
  - Geometry - Part I
  - Geometry - Part II
- Metric System
- Borg-Warner System 80
  - Basic Phonics
  - Reading Words in Context

COOPERATIVE EDUCATION ON A SHOESTRING

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Dr. Sheila Gordon -- Co-operative Education -- June 16, 1976

I think people want to know what co-operative education is because it is one of those marvelously vague terms that can really take in almost anything that one wants to say.

It does have a definition that's a bit more precise: some mix of work and study, some mix of field experience working outside of college and college education. Now, a lot of people would argue that the definition is much more narrow than that, and there are some really old pedlars of the movement that say that unless it is organized on a quarter system, three months' study, three months' work, paid, in your field of study specifically - then it's not co-op.

That's really been the traditional view until the 1960's. But in the past dozen or fifteen years, I think that the idea has broadened, and those of us who are involved increasingly feel that co-operative education really is what you and what your institution mean by a mix of experiential education with the more conventional classroom education, and the means to provide students with help to learn in both modes.

I will get to different models and different ways of implementing co-operative education in a few minutes. I do want to say that I think that co-operative education is also a response to what the topic of this conference is; that is, our perplexing present. What is our perplexing present in higher education? It's declining numbers of students, and declining interest in what we have to offer. The consumers aren't banging down the doors as they were ten years ago. It's also a decline, it seems to many of us, in the standards our students bring to us. And all this brings stress to bear on us and generates different kinds of demands on the institution. It's a changing economy; no longer the boom economy of the sixties, but growing unemployment, a sense of limits to growth. What does this mean about higher education and the product that we deliver?

Finally, of course, for all of us, a very big, new question. No longer does the college or university degree seem to be the ticket to a good job. This sort of thing represents some perplexing aspects of the present for me.

Co-op as a way to provide students with an off-campus, often paid work or career-related experience is, I think, a beginning response to some of these issues that we now face. By giving a student a chance to work, to explore, it provides a career motivation that is very high; certainly it is in a lot of our students in the States right now. They are worried about the economy; they are worried about their futures; they're very practical; and they want to have some greater sense of certainty about what they're doing.

Co-operative education in many instances also provides a student with some income, and with the cost of attending college these days that's a very important thing. Also with the growing number of older students, income is extremely important Another thing that co-op can do, at a time when your budgets are all strained, is provide a way of maximizing your utilization of facilities.

It also provides a very, very important linkage to the world of business and industry. It provides on the one hand what is a very real, very definite reality test of your curriculum, and your programs, and finally, your graduates. And, while its doing that, it also provides a very natural and very easy interchange between your staff and people out there. And without having great big conferences, or confrontations, if you will. You find in a co-op school that your curriculum changes quite naturally and quite easily. And we have seen that you help build, on the part of business and industry, a sense of confidence in higher education that they don't always feel when they look at institutions which are not involved with them and relate to them. These days when I think a lot of non-higher education people are questioning us, that's not a bad thing to have.

Finally, for the student, co-op really provides a sense of relevance for them. If we do the right things and we do our homework in the classroom and in the college we can help them understand that what we are talking about is not just something that's in a book somewhere, some abstract theory. Instead, they feel much more that all of the things that we teach, whether it's drafting, typing, or history and philosophy, have their bases and their genesis in a real world outside of us, and students can see it and apply it and understand it.

As a last minute or two on philosophy, co-op forces an institution to deal with the question of outcomes. What is it that you want and expect your graduates to be able to do? You design a complex curriculum, you write all kinds of fancy rhetoric in your college bulletin, but when your students graduate, can they really do those things? Can they really communicate? Can they really connect Western civilization to their own functioning lives as a citizen? How do you know that they can do that? Can they really understand or apply what you've taught them, or do they see an ivy-covered wall dividing them and what they've learned in the classrooms from what they actually do as workers, as family people, as citizens in the outside world?

The exciting thing about bringing the experiential mode into higher education is that it forces us to examine whether we are achieving the traditional, age-old objectives in higher education.

That's a bit of why I think co-op is important and why I think it responds to some of the things that we're all worried about. But then you've got to do it. And sometimes on a very tight budget - on a shoestring, if you want.

I would like briefly to "walk through" some of the steps to get co-op started. I've given you a check list to help with this (Figure 1). To do a little bit of P.R., if I might, for a couple of other things I'm involved with besides LaGuardia, this is a partial outline for a book that I am doing with a colleague from Michigan State University, John Duley, for CAEL. CAEL is the Co-operative Assessment of

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Figure 1 (page 81A)

FIGURE 1

FACULTY CHECK LIST FOR GUIDING STUDENTS' EXPERIENTIAL LEARNING

Define your program.

Define your program's primary objectives.

Define what is an "appropriate" placement
- Define who determines appropriateness
- Determine the amount of institutional staff support
- Assess the nature of the student body
- Clarify the time period for the placement
- Assess the agencies' expectations

Develop placements
- Determine who will develop placements
- Identify potential placement opportunities
- Identify strategies for developing placements
- Develop a reputation and a network
- Confirm placements
- Maintain placements.

Select students
- Define your criteria
- Develop selection procedures
- Recruit, if necessary

Prepare students
- Develop vehicles for preparing students
- Determine academic prerequisites
- Orient students to the program
- Teach experiential learning skills
- Facilitate the students' self-assessment
- Guide students to develop a learning plan
- Help students anticipate change and difficulties
- Prepare students to obtain a placement

Place students
- Determine the matching and placement process

Monitor the students' experiential learning
- Determine what will be monitored
- Determine who will monitor
- Determine how the monitoring will be done
- Determine when the monitoring will be done
- Consider the role of the agency supervisor

Follow up: assess experiential learning
- Determine what will be assessed
- Determine when assessment will take place
- Determine who will do the assessment
- Determine how assessment will be done

Follow-up: integrate experiential learning into overall educational scheme.

Experiential Learning which is a consortium of 200 or so institutions who have gotten together to look at the whole question about what learning through experience is all about - how you assess it, how you credit it, how you deliver it. This particular book, which will be out in February 1977 is intended to help faculty who, on a shoestring often, confront the need to get co-op going. What I've given you is a checklist for what you have to do if you really want to have a program that covers all aspects.

Let me start out with some 'don'ts'. You don't start by going out and saying, "Well, what we need is jobs and so we're going to go out and develop jobs." I've heard several people here say that all we need is a good job developer and we'll have our co-op program. To which I have to respond "What program?"

Really the first thing that I always say to anybody who is thinking about setting up a co-op program, is "What do you want to achieve? What is your program designed to produce? How do you want your students to change?". Sometimes I'm surprised at myself because I begin to sound like a person who likes behavioural objectives. I hate them and they're antithetical to the whole way I operate, but I find you've really got to ask the sort of questions that tend to lead to behavioural objectives.

What do you want to do with this program? Do you want your students to get money - is that your object? That's fine, if that's what it is. But you have to think through what it is you're trying to achieve with your program. In the States, there are about a thousand organized co-operative education programs now, indirectly, and they're all different - they all have a different notion of what is going to happen to their students as a result. The best ones are the ones that have at least tried to explore and tried to articulate what they want to have happen to their students and the weakest ones are the ones that sort of say, "Well, it's a work program and our students will get some money."

So, you've really got to define what kind of program you want. Do you want your students who are in a certain curriculum to get specific practical applied experience in that curriculum? Is that your primary objective? Is your primary objective that students learn about the world of work? Is your primary objective that students earn some money? Is your primary objective that students test themselves in new kinds of learning situations? Is your primary objective that your students develop a whole set of personal, inter-personal kinds of skills and build their confidence? Is your primary objective that students explore different kinds of careers?

All of these are different kinds of objectives that a co-op program can have. They're not necessarily mutually exclusive, but they're different, and depending o what your priorities are it's going to influence the kind of program that you want the kind of staff that you have, the kind of internship development or placement development, whatever you want to call it, that you'll do. Unless you begin to h some clear ideas of your purposes, as opposed to some sort of vague notion that "A we've got to do is get industry interested and we'll have a co-op program". Otherwise, you're not ensuring that you'll have a very good program, or a very successf one.

You have to define what your objectives are and what the outcomes should be f students. The outcomes for students can be very specific about what kinds of thin you want them to learn. Again, to push CAEL a little bit, one working paper alrea produced is a guide to students about how they learn, or can help themselves learn through work experience, and it lists some 9 different kinds of learning objective that students can achieve in a field experience. Many of the things that I mentio before - learning about work, developing specific work-related competencies, broadening their horizons, exploring new vistas, testing themselves, developing inter-personal skills, - all of these are potential learning outcomes, but you, as the faculty, as the educators in this whole mix, have to be able to articulate what tha is.

With that in mind, let's begin to walk through this checklist. What is an appropriate placement for your students? Which of these priorities is placement supposed to meet? Now, let me ask you - and these are important questions, politic strategically, administratively, within your administration - who determines what's appropriate?

At my institution, we have a whole separate division of co-operative education which reports directly to the President. We are an experiential unit. We are not tied to any of the disciplines - we are our own discipline, if you will. We determine what's appropriate, and this makes for a very different definition of what is appropriate. Clearly, you may very well have a different result if this is the case. One or the other is not better or worse; it is the programatic objectives that have to serve as criteria.

Another factor in defining what's appropriate is how much staff support is available. If you can have a lot of seminars, a lot of people to visit your students, a lot of preliminary work before the student goes out and a lot of preparation, it's possible that your students can do all kinds of things with very little direct supervision in the field experience. You may be able, to give an example, to let a student who is interested in management go out and try to start his own business. But, if you have very little support, you might feel a lot more comfortable having that same student work as a management trainee in a big firm which has a lot of support in it. It depends on how much you can bring to it, it depends on what, again, is going to be appropriate, and what you can deliver.

A key question in all of this, and a third point under the heading of "appropriatness", is, "Who are your students". I confess that we started out with some inaccurate ideas of who our students were, which led to often selling the program with some distortion built in, and that's a bad thing to do. Who are your students? What are their needs, what are their interests, how independent are they, can they travel, have they been away from home, can they ask questions independently? How much support do you need to give them?

I'll give you an example of the significance of all this. Antioch College, which I imagine many of you have heard of, is a major co-operative education institution in the United States. All of the students have field experience as part of the curriculum. The college primarily attracts middle to upper middle-class students with very good educational backgrounds, who are very articulate and very competent. My school attracts first-generation college students from low-income families who are not confident, who have had years of learning how to be passive in our public schools, and who have generally weak educational backgrounds.

Now, we happen to have shared at one particular firm in New York City the same kind of position. In this major public relations firm, several positions called "mail and messenger clerk" were filled by Antioch students and LaGuardia students. The Antioch students thought this job was a terrific position - a big public relations firm; all these fascinating people to meet and question; just walking around delivering mail gives you the chance to talk to the vice president who's just done this great big public relations campaign, a chance to wander around the city, as part of your job and see New York; what an incredibly rich learning environment! That was the Antioch student's reaction. My students' reaction was that this was a boring routine, mundane job; I could have got this on my own!

Who are your students? What is an appropriate position - it depends on what you can offer them, how much support, and what they're going to bring to it.

Here's another experience we had. We heard about a marvelous archeological dig in York, in the north of England. We knew there were colleges sending their students to live there for the summer, and work on the dig. They provided a sort of dormitory living facility for the students and 5 pounds a week expenses, and we thought, isn't this terrific? What better kind of experience for a student - to live in England, be on an archeological dig, just fantastic! So, we sent our students and they had a lot of problems. They'd never been away from home; "the toilet paper was too rough for them; the food was......all that pork that those funny English people eat and stuff;" they weren't learning anything; the physical work was too hard. For our students, who were very provincial, it was a very difficult kind of experience. And we learned that in order to make such placements work, we had to provide much more preparation, much more support - probably a faculty member going with them - if we were really going to make this kind of thing successful. But other students from the University of Michigan loved it, thought it was absolutely wonderful, a terrific opportunity. Again, who are your students? A key question. We can't impose our own values and our own expectations on our students.

The next point that you have to think about is, "What is the time period?". I know this is a question that a lot of you worry about if you are starting co-op on a shoestring because you don't have the same kind of an advantage that a college like mine had when we set up co-op from the beginning. We could organize our college calendar around what we saw were the needs of the program. But if you've already got a semester program going, how do you feed in a time in which a student can have a block of work experiences? Well, there are many different time frames that you can use. And none is perfect. What fits in with your calendar - half a day, afternoons? Is that OK? Two, or two and a half days a week - does that work? A week on and a week off is what some places use. An entire semester? Make use of your summer? There are lots of different ways and different time frames to choose. But it must be consistent with your needs, and you can't, of course, end up creating a co-op plan which means that you end up with only half a chemistry class. If half of your chemistry students are out on their co-op, then in terms of use of faculty, this is just uneconomical. But there are ways to work that around, as long as you make sure you've still got a classful of students on site. You can organize that.

The other consideration with respect to calendar and time is that your calendar itself begins to influence some of the kinds of positions that you can have. You can't send a student on that archeological dig in York if you're on a split-day internship; it's a long commute, if you're going to do that every afternoon. So you have to be clear on what you're trying to do and who your students are and where you're trying to place them when you also set up your calendar because each kind of opportunity has its own benefits.

For some skills - for example, typing - it works very well when there is reinforcement of the classroom by work experience every day. I think it's ideal for a secretarial student to have afternoon, or two-day-a-week placement to give direct re-inforcement; don't lose your skills. But that may not be the same kind of time frame that you want for a student who needs to test himself in an environment and needs to be away from the sheltering support of the school. So, again, the time frame is a really key issue.

Finally, in determining what is appropriate, you have to assess what you expect of the agency in which you are going to place your students and what the agency expects of you. In your placement, do you expect that your supervisor is going to be able to provide many, many hours during the week of support, direction, and orientation, to your student and provide that much feedback to you. Or, do you expect a minimum of that? What's realistic, what's feasible? You have to know how much you expect from your employer before you go about developing internships. Otherwise your expectations can be too great, and either you can discourage the people when you try to develop them or, in fact, you can find that you've got less than you expected, and that's unrealistic, too. But you have to remember that the people with whom you're placing your students have their own concerns and they're not set up to be educators for your students. They have their own interests, their own demands, and you've got to be responsive to that.

They also will expect certain things of you. Before you go out developing, you'd better figure out what you're going to provide to them, how much feedback, how much support, how available your staff is going to be to the agency if there is a problem, what you're going to do if one of your students decides to quit right in the middle of a key project that they're doing. All these kinds of questions should be anticipated and answered before you start.

And, all this is part of defining what appropriate placement is. Now, as you can well imagine, the order of planning that I've listed is hardly the perfect, or the only order. It's just one that is logical to write down on paper. In fact, you will find that you can start anywhere and proceed. I do think; however, that it is important to keep in front of you this whole complex picture of how you need to build a co-op program in order to make it work.

You're going to have to determine who develops placements. It can be any number of people, but there are advantages and disadvantages to having certain individuals develop your placement. You can take a faculty member, at least part time, and let him develop. Advantage: he knows your students, he knows your school, and you don't have to train him about your outcomes. Disadvantage: he may not be the best salesman in the world, and he may feel very torn because now you've given him two jobs. And, even though you say that you'll allocate the hours, it's still a big strain. On the other hand, go out and get your super salesman who really wants to deal with kids, and get back into education. He might really be very persuasive with your employers, but he may oversell your program; he may not be sensitive enough to the needs of your students; he may need a lot of training and orientation about the objectives of your school. Maybe you can use your students as developers. Maybe you can use independent internship brokering firms, of which there are many in the United States, and probably some in Canada, although I'm not familiar with them.

There are a number of different routes, but the point is you've got to think through who you want to do this, who can do this, and try to make the best decision you can for your institution. And then you've got to look for the opportunities. Here you've got to be as imaginative and creative as you possibliy can, because industry is not sitting there, as they may have been fifteen years ago, waiting for you to come with your students. In a country like Canada, where I have heard it said there is something like 18% unemployment among your young people, industry is not straining at the bit to come and get students to work for them.

You really have to be management consultants, and figure out where a student who works on some kind of a non-permanent basis and doesn't have that strong a background necessarily can fill in. And there are lots of places. But there may not be the conventional and traditional ones that you think about. For example, if you've got some Liberal Arts students who are interested in teaching as a career, and if the situation in teaching here is anything like it is in the States, I would not start by looking at the regular public schools for teacher assistant positions. They're swamped. They're more than filled. Maybe you want to look at some unusual things - like day care centers that are growing up, at camps, at recreation opportunities, at other kinds of institutions that will give your students a chance to work in a teaching-like environment.

But you may not be able to go down the straight and narrow path that you might have thought of. You have to learn to go around and be more imaginative. Remember, you're dealing with this hard-bitten employer who - although, in his heart of hearts, he's a softie and would love to hire your student - has a Board and a profit margin and his bottom line considerations all the time. How is this going to pay off for him? What is the cost benefit? There are very important cost benefits, but you have to know what they are and be honest about what they can be for him and not oversell, because he's very smart and he's going to figure it out right away.

But there are real cost benefits. For example, if you do a good screening process he doesn't have to pay an employment agency, he doesn't have to advertise. If you send him good people he's going to go through the training period as part of your program and then not have to retrain. Those people may stay with him and become permanent employees. There's a tremendous cost benefit for him in doing that. He may have certain needs at peak times of the year. For example, in the whole Accounting field, when the time comes to pay taxes, there are certain peak needs, that a school like ours and maybe like yours can feed into very easily and very nicely. Your employer doesn't want to hire a permanent person with heavy fringe benefits and a responsibility toward him and his pension forever. He may be very happy to hire a student for a few weeks or a few months if you are shrewd enough to identify what the benefits are. Often, you know, a businessman, like the rest of us, develops certain kinds of blindness about his own institution and doesn't see the gaps that exist. You, with a fresh view coming from the outside, and with a great deal of tact, and respect, can help identify what some of these gaps are.

Then, one of the important things that you've got to do, regardless, is to develop a reputation and a network. This is one of the ways also that you can really do co-op on a shoestring. Use every resource you've got; the process of developing placements for your students is not a 9 to 5, Monday through Friday job. Some of the best placements are developed at cocktail parties, picnics, and cookouts, and other kinds of things - because potential employers are everywhere. And can be persuaded everywhere, and better at a cocktail party, in fact, than at a 9 o'clock in the morning meeting. Your Board of Trustees are probably well connected with your community. Your alumni are now working and are very good contacts. Your local trade associations maybe will let you come in and talk to one of their meetings. There are all sorts of networks that you need to get yourself into, so that people know about you and you know who they are and you begin to make those contacts and those connections. And, then, once it begins to grow, it can grow faster. But, use every one of these free resources that exist - chambers of commerce, whatever you call them, associations of industry, informal contacts, everything. Use your faculty members who may have come from industry - you've got to press everybody to remember that brother-in-law Sam works for Dow Chemical, or for whatever company you're trying to get to. You've got to get the name out and the word out so that people are responsive and think about what you're looking for. It's a lot of work, though, this business, because you've got to confirm these positions and you've got to maintain them. There are many other sources of employees out there besides your students and your employer has to feel that you are really delivering a service for him and that takes a lot of work - a lot of tender, loving care, to get to him, to make him feel that he's important, that this program really works. That requires a lot of loving, a lot of being involved with the College, a lot of making sure that the College provides other services to him, and lot of intervention when anything goes wrong with your particular placement. There are all kinds of opportunities for this sort of thing.

But, relating to the employer is only one-half of the whole task. Because it's your student who is the essence of the connection. And if your student is not the right student for the right position, is not prepared well, then, you've really run a risk of undermining your program. And, so, as I've indicated, you've got to know what students you want, what criteria you're selecting them on, you've got to reach out to them, draw in the kinds of students that you want to place, and you've got to develop clear selection procedures for getting students into your program if it's not a mandatory program. And, then, whether it is mandatory or not, you've got to make sure your students are prepared. That means that they have the basic academic and technical skills for whatever your placements are, and that they understand what your program is. That means they understand when they start, and when they finish, what their obligations to you are, and what their obligations to the employer are. You will not be very happy, when your school vacation comes, perhaps in the middle of April if your student announces to his employer, "It's spring vacation, sorry, and I'm going on my vacation." That's probably not going to be allowed under the rules of your game, and your students have to understand that.

They may need help in learning how to interview, in understanding what the employer's perspective is; they may need a whole set of skills that you want them to have. One thing that I emphasize particularly is the need for experiential learning skills. How do you observe what's going on around you? How do you record it? Keeping journals, recognizing critical incidents; all of these kinds of things are terribly, terribly important.

The student that you send out there has to be a self-learner and a self-motivator, because, and this is the key difference between classroom and field experience, *you're* not going to be there. For your student to be as productive and effective for you and for the program there has to be self-motivation there, and that requires a lot of preparation on your part. You've got to prepare him to anticipate learning opportunities and learning problems. An unsympathetic supervisor, or a chance to break into a whole new area; you've got to orient him so that he sees these things when they come and not have them pass right by him. That takes a lot of work on your part. But, you know, it *can* be done.

Finally, you've got to make sure that your student can get that job when you send him out. You don't want to have what happened to us at the beginning. We sent out a student to a very fancy department retailing establishment in New York who went in chewing gum, was necking with her boyfriend in the lounge, and when asked, "And why do you want to work for Bloomingdale's, my dear?", replied, "Well, the sign was posted about a job." That didn't work out, and it took us three years to recoup our relations with Bloomingdale's. That student really didn't know what she wanted, and how to get what she wanted. And that's really one of the keys to all this. It's making your students managers of their lives, getting them to maximize their learning, getting them to say, "Look, this is who I am; this is what I want; I'm going to go to that experience and get what I want out of it." One of the key guiding principles that I think goes throughout co-op is to make your students active, energetic learners for themselves rather than being passive learners - to make them realize that this is a key opportunity that co-op offers them.

There are many, many more points that I could talk about. You've got to develop a matching and placement process for your students. It just doesn't happen. You've got to make sure that you've got the right student with the right position, and if you've got lots of students and lots of positions, it gets complicated. We've computerized our matching and placement process, to some extent, because we place upwards of 500 students every three months. You may not have that problem.

Once a student is out, you've got to be in touch with the student; you have to have some way of monitoring what's happening to the student out there. Out of self-interest, because if there are problems you better know about them fast, and because you want the student's learning not to slip down because you're not on top of it in some way.

There are many different wavs to do all this, but you have to make sure you have a design and a plan for doing it.

There has to be follow up. There has to be some assessment by the student and by the institution of what the student has learned. How do you credit it, how do you assess what the student has learned, and finally, after that, how do you make that learning the basis for continued learning, back in the classroom and elsewhere.

This all comes back to the very first point, which is that to assess what the student has learned, you have to have an idea about what you hope the student will learn and what your educational objectives are for the program. If you do, then you're probably being very clear and straight with yourself, with the student, and with employers, and I think in the long run that's the kind of thing that makes your program work, rather than being something that's oversold, or trying to do something for a set of students or a set of employers that is inappropriate.

If you look at this, it looks like a big, massive task. And it is a lot of work, and a lot of analysis. And I think if you talk about doing it on a shoestring, I think you need to choose somebody who can tie shoes very well, someone who will even know what to do if you don't have a new pair of equally matched shoestrings to tie. And that means, if you want to start a co-op program don't give it to the person who really wasn't doing anything very well anyway and say you've got to find something for that person to do.

Give it to a person who can plan well, who is imaginative and creative. Then that person can do it for you on a shoestring. There are a lot of ways that you can save money and do things in a not too expensive way.

Let me say one thing about what co-op has done for my institution at a time, when it looks like the City University of New York is just about to collapse and die very rapidly. As an institution we have had a 40% enrollment drop for next year. My college, one of the 20 institutions in the University, has had no enrollment drop for next year. I think that reflects the fact that we have a program which is keeping us vital and alive and attractive to students at a time when many of the issues that we're talking about are here.

As I indicated before, if you've got some imagination and creativity going you can use lots of resources that will do a lot of things for you cheap. Go and talk to your friends in industry and get them to set up a committee that will do development. Set up nice little meetings, say morning coffee sessions. Get people motivated and they'll do the work for you. Send out your alumni, use all of your contacts; you may not need a whole stall full of job developers if you can use all of those free resources which exist for you out there, but again you have to have a good shoestring-tier to do that.

You can also combine staff roles. I was at a very interesting availability session this morning after the student services presentation, and I was reminded very much at that time that my staff, working as they do with students throughout their careers at our college, really do a great deal of career counselling and personal counselling, because we are people that the students must come to see. When a student is having a problem in relating to his supervisor, then that relates to a whole set of personal problems that that student is having. When a student is looking for an internship, that student is making a decision about his career that is absolutely essential, and when your co-op staff is able to deliver co-op internships to your students, they are introducing the student to the career options that exist for him. So that if you look at the staff that you have, you may be able to combine tasks and functions to make much more efficient use of people because you've got a real program that, as I've said before, functions as a reality test for your students.

So we do counselling - lots of it, lots of career, personal, and financial counselling right within the job task. Similarly, we function as educators. And we find that much of what we need to teach the students to be prepared for co-op can happen in the classroom if we work effectively with the instructional people. Then students can be taught to know not only, say, how much data processing you need to be a junior programmer, but also how you know what's going on around you, how you know who holds the power and who decides what happens to whom - who decides when that particular programming assignment has to get done. Because you have to know both kinds of things to be able to function well on your co-op placement or in any real job.

So a lot of things can happen in the classroom with the people that you've got already if you understand what you want to get done. Then you'll see that there are obvious sources of people to do it right there where you are without having to add additional faculty.

Finally, if you really know what you want done you may find that some of the learning outcomes can take place in the field itself. Office practices, for example, in the secretarial program, may be better implemented in a co-op internship than in the classroom. There are other things that you may want to think about in which the placement itself can be substituted for a course. We haven't had all that much success with that, but I do think that some institutions will be able to identify tha as a very real source of actual substitution for classroom teaching.

I think that co-op is a program and an opportunity which is very demanding but very appropriate, and a very exciting response to our perplexing present as this group has defined it. It's a way to help institutions grapple with the many issues that are facing us all today and really, on a kind of a shoestring. Help us to begin to answer them so that institutions don't become old, petrified and unresponsive to the problems that we've identified. Co-op can help institutions become vital and responsive institutions in the years ahead as our student populations change and as the economic and social base in which we're delivering higher education changes. I guess that's why I'm an advocate for co-operative education. Thank you very much.

OVERCOMING BARRIERS TO EFFECTIVE INSTRUCTIONAL CHANGE

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Overcoming Barriers to Effective Instructional Change

by

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To begin, I'd like to demonstrate a point about change. To do this: Those of you who are sitting with your legs crossed--will you uncross them? Thank you. Now those of you who were sitting with your legs uncrossed--will you cross them? Thank you.

What were the thoughts that went through your mind as you crossed or uncrossed your legs?

Why?

Who are you to tell me how to sit?

To hell with you . . .

If those were your responses to a suggestion that you change something as unimportant as how you sit, think of how faculty feel when they are told they need to make changes in the way they teach--something of critical importance to each of them. That's why causing instructional change is no easy matter.

Presentation at the Seventh Annual International Institute of the Community College, June 14-17, 1976, Sarnia, Ontario.

Got your attention? Good. Now what I'd like to do this morning is to share with you some observations I've made about instructional change. The title I've chosen to give to this is "Overcoming Barriers to Effective Instructional Change." For those of you who like to know what's ahead, I've divided my presentation into four parts:

The Nature of Effective Change
The Need for Effective Change
Obstacles to Change
Prescription for Change

During my presentation, I plan to actually involve you in identifying obstacles to change at your college and, a little later, to acquaint you with a technique I've found useful in determining solutions to those obstacles.

The basis for my remarks is experience--some ten years in community colleges, the last eight of which I've been heavily involved in trying to cause, facilitate, or manage effective instructional change. During this time I've worked with over 2500 faculty members, department/division chairpersons, deans and presidents.

In the process, I've accumulated a few scars and a few stories. One of them involves a workshop at one college where, in an attempt to make a point about change, I asked for a show of hands of those persons who had been teaching in the community college for over ten years. One kindly old veteran raised his hand. I commented that in his time, he had probably witnessed quite a few changes in the community college to which he replied "Yes, and I've been against most of them." What do you say to that?

There are several types of instructional change. Most of these changes are unplanned. For example, the kind of change which occurs when you've scheduled a film and it doesn't come in, or when 40 students sign up for your 24 station lab, or when you walk into class and realize the folder containing your lecture notes is at home--that's unplanned change. It happens all the time and its effects are rarely lasting.

Then there is change by administrative edict. This is exemplified by the well meaning president or dean who attends a conference--normally held in California or Florida during January or February--where he learns about behavioral objectives--then returns to campus, orders copies of Bob Mager's Preparing Instructional Objectives and passes them out to the faculty with a memo saying that as of a given date, all faculty are to have written instructional objectives for their courses. This is change by administrative edict. It (and the administrator who practices it) is rarely effective and the temporary changes brought about by it (or the administrator who practices it) are rarely lasting.

However, these are not the kinds of changes that I'm talking about when I refer to effective instructional change. Effective instructional change is planned change and lasting change. It results in more effective teaching, more efficient student learning, reduced failure, lowered student anxiety, and an improved self-concept on the part of students.

Now, at the risk of losing half my audience, I want to take a side trip. We've all been told that it isn't possible to define good instruction. I disagree. We now know a great deal about characteristics of effective instruction. To illustrate, let me share with you several characteristics of effective instruction about which most learning theorists and educational technologists would agree. Effective instruction occurs when:

1. Maximum communication and agreement exists between instructor and student about the goals and objectives of instruction

2. Students are tested to insure that they possess needed prerequisite knowledge/skills and are provided remedial education when they do not
3. Courses are broken into well-defined, smaller learning units
4. Students are provided with objectives which they believe to be relevant to their needs and abilities
5. Mastery of the objectives of each unit at some specified level is required before students can progress to the next unit
6. Students who fail to attain mastery on the first attempt are provided alternative learning activities
7. Students are given sufficient time in which to learn
8. Students are given adequate opportunity to engage in the activity they are to master
9. High quality learning resources/activities are provided to students to help them achieve the goals expressed in the learning objectives
10. Students are given adequate feedback regarding their learning efforts
11. Grades are based on performance against pre-determined standards, and not on the basis of competition among students

I would make two comments about the list. First, there is probably little there that any of you would disagree with. Second, if that is so, why are we not practicing them? Can we in education afford to be like the old farmer who readily admits that he's not farming "near as good as I know how."

But why change? Why do we need to be concerned about this at all? Why isn't the educational approach we experienced when we were in school and college good enough? After all, we say--look at us. That's right--look at us! Is this what we want for our sons, daughters--or students? I think we want better.

Let me very briefly cite just five reasons why we need to be concerned about changing our instructional approach.

1. The changing nature of our student clientele requires effective instructional change to meet their needs. This is particularly true of the still increasing number of academically disadvantaged students and the rapidly growing segment of older part-time students.

2. Faculty and administrators are recognizing the need for instructional change. AACJC surveys in 1969 and 1973, my own surveys in the Northeast and those of Walter Hunter in the North Central Accrediting Region verify this. This recognition of need and demonstrated interest on the part of those who are to change is essential if effective instructional change is to occur.

3. The pressures for accountability and productivity from cost-conscious boards and legislatures are suggestive of a strong need for effective instructional change. Those of you who were around in the 1960s will remember that era with real fondness. Competition for tax dollars was minimal, and education, including higher education, each year received a larger and larger percentage of local, state and federal budgets.

With these new dollars schools and colleges were able to do some significant things. As the superintendent at the Dallas, Texas school system said: "we increased salaries, we reduced teaching loads, we significantly improved fringe benefits, we built new buildings with areas for faculty preparation, we employed teachers aides--in short--we met almost every request from our teacher association. Then one day we finally got around to evaluating the results of all this. We found no significant differences: --in drop out rates or --in scores of nationally normed tests. Yet, in less than 10 years, our costs had doubled.

Our reaction was somewhat like the tom cat who, after a brief love affair with a skunk, decided he had enjoyed about all that he could stand and went looking "elsewhere." For Dallas, "elsewhere" meant a realization that more money didn't yield more effective or more efficient results. And Dallas wasn't alone in this.

This general concern and increased emphasis about the effectiveness and efficiency with which we spend our money reached its peak when, in the late 60s, a new word--accountability--was applied to education. Today, although we don't see or hear the word as much as we did then, its impact is still there, only in a new form. Whereas a few years ago, legislators were learning to ask questions about cost per student credit hour, and faculty student ratios, now they are beginning to ask questions about the relative value of a course costing $62.00 in one college versus one in another college which provides the same credit hour for half the cost, or if a college with a 20:1 student-teacher ratio is really better than one with a 26:1 ratio. We have barely learned how to program our computers to answer the earlier questions. Answers to the new questions will be considerably slower in coming.

4. The pressure to develop instructional practices which will not only cause students to wish to enroll in but will facilitate their remaining in the community college until graduation reflects another need for effective instructional change. This pressure stems from the reduced pool of college-aged full-time students and the increasing competition for non-graduated students by many four-year colleges who previously showed little, if any, interest in community college enrollees until after they had graduated. The necessity for establishing a reputation for excellent teaching is further reinforced by the recent tendency of some four-year colleges

to both adopt open or semi-open door admissions policies and to offer two-year associate degrees and one-year certificate programs.

Not only are the community colleges' efforts and enrollments in its transfer program feeling the pressures of competition from four-year colleges but challenges to its occupational programs are coming from the wide-spread development of new vocational-technical institutes, some of which are located directly across the street from community colleges.

Another source of competition in the non-transfer areas are the proprietary schools. Proprietary schools? Are they still around? I thought we put them out of business.

The fact is that despite the rapid increase in community colleges since the 1960s, the proprietary schools have still done quite well. There are some good reasons:

--guaranteed placement of graduates

--high quality training in a short time

--flexible registration procedures--their students don't have to wait until September to begin a program

--ability to respond quickly to new needs--no state curriculum committees or state governing boards. Just one example--due to the recent decision to innoculate everyone in the U.S. against the flu, there is a need for chick sexers--a little known profession that pays $20,000/year. Imagine how long it would take to get that program approved at your college!

5. It is time to take advantage of a technology of instruction which now is available to us. Unlike earlier times, when our idea of innovation in instruction was alternate lecturing--better known as "team teaching"--there now exists a wide array of instructional technology and techniques to support innovation. Such things--to mention just a few--as the 8 mm

film loop, video cassettes, and the newer video discs. These, and less sophisticated innovations as the slide projector and the audio cassette offer new ways of increasing student learning that we have only scarcely begun to tap.

I would hazard to guess that 90 percent of you would agree with me that there is a need for change. But you and I know that change isn't easy--for example have you tried to change a college calendar? Or a registration system? If you think that's bad, try getting a tenured full-professor at the top of the salary schedule--with $12,000/year in retired military pay coming in to change!

You know, change is a strange phenomenon. Progress and reform, the results of change, are clearly in order; but their instigator--change is not. For change destroys routine, implies criticism of what is, and provokes feelings of fear. A curious paradox.

At this time I'd like to share with you a list of barriers to change which I've discovered exist in most institutions and which work against all kinds of change. I'm sure you'll recognize many of them. In fact, those of you who are faculty probably think every president, dean or department/division chairperson has them committed to memory. I'm curious--how many of you are administrators? Will you raise your hands? I'm assuming that the rest of you are faculty. If you see any of the persons who raised their hands writing these down--take away their pencil!

Barriers to Change
(A List of Excuses?)

I wish you had mentioned that to me before budget time.

That's a great idea but I don't think it will work here.

We (or someone else) tried that and it did not work.

I'm afraid that's too radical for us.

If only I had time.

It just costs too much for us.

You're kidding.

No, we're too small for that.

We have outgrown that.

Where does this fit with what we are already doing?

We have never done that before.

I think you are a little ahead of your time.

Why change? What we are doing is working okay.

I just don't think we are ready for that now.

You can't teach an old dog new tricks.

I doubt that they would buy it.

We seem to be doing alright without that.

Let's think about it for a while.

Let's establish a committee and let them look at it.

Do you know of anyone else who had tried it?

What does research say about this?

Write that up in decent form and let me see it--

I am sure that most of you recognize and can identify very readily with them. But seriously, I think there are some more fundamental obstacles or barriers to change which you are likely to encounter in your institution. The past two years I've been attempting to develop a list of these which I will share with you in a few minutes. However, to demonstrate a point regarding the relative agreement or consensus regarding what those barriers or obstacles are and at the same time to introduce you to a technique which I think you will find very useful, I want us to spend a few minutes and see what kind of a list of barriers to effective instructional change we can develop.

The technique which I am going to familiarize you with will allow you to develop a list of obstacles to change at your own college and then rank order your list. It is called the nominal group process.

It is a procedure developed and validated by behavioral scientists for use in judgmental or creative group decision making. It has been used extensively in business, industry, social work, and community groups. Effectiveness of the technique is based on four types of evidence.

1. A greater flow of ideas are generated than with traditional methods
2. Fuller participation of all those involved in contrast to other settings
3. Increased evidence of the task being accomplished
4. Evident sense of satisfaction on the part of participants about the process.

If each of you would take out a sheet of paper, I'll give you an idea how this technique works. To begin, I'm going to pause for three minutes. During that time, I want each of you, alone and silently, to write down as many responses as you can to a question, but before you begin please--don't write down names of people, just use titles--you faculty from Lambton--don't say George Allan--Academic V.P. will do.

"The barriers to instructional change at my institution are:"

If you finish early please remain quiet. Two cautions:

1. Don't identify your institution.
2. Don't put your name on your paper.

Time's up. That would conclude phase one of the process. Of course, in a normal situation you would be in small groups of 7-9, and we would allow more time but since that isn't feasible here, you'll have to use your imagination. During phase two, each of you will be called upon, in round robin fashion to contribute one item off your list until everyone's list was exhausted. These would be written where everyone could see them--preferably on newsprint. Naturally, if someone contributed an item similar to one on your list, you would scratch it off your list. During this recording phase, no talking or politicing would be allowed.

Obviously, we don't have enough time to consolidate your list. However, I do have a list which I'll predict contains at least 90 percent of the items on your list. It's one I've developed from working with several groups including one numbering over 900 persons. I'd like you to look over your list and cross off those items which appear on my list. Then pass in your list.

Barriers to Effective Instructional Change

Major:

1. Change Itself
2. Inertia

   Lack of:

3. Administrative Emphasis
4. Administrative Knowledge of Change Strategies
5. Knowledge of Faculty
6. Perceived Need by Faculty

7. Incentive to Change
8. Confidence in Administration
9. Involvement by Faculty in Planning
10. Financial Support
11. Time
12. Freedom with Regard to Type of Change
13. Good External Consultants
14. Good Internal Assistance
15. Right to Fail
16. Peer Group Support
17. Flexibility and Institutional Structure
18. Good Communication within the Institution
19. Student Involvement
20. Research to Prove "New" is Better
21. "Good" Climate within Institution
22. Evaluation and Feedback
23. Past Precedent
24. Demand from Students

Other:

25. Facilities
26. Past Experiences
27. Community
28. Copyright
29. Personalities Involved
30. Workshop Approach
31. Attempts to Change Everything or Too Little
32. Failure to Assign Responsibility

33. Politics

34. Emphasis on Quantity

35. Shooting for Everyone

36. Fear of Conflict

37. Local, State and Federal Red Tape

38. 4-Year Colleges

39. Grant Funds for THAT

40. Personal Egos

(The following additions were made to the list when the results were tallied:

Differences of Educational Philosophy

Interference by the Board of Trustees)

(As participants were developing their list, Dr. Hammons made brief comments about each item on his list. In the interest of space, these were deleted on the proceedings.)

Prior to publication of the proceedings, I'll tally the results so when the proceedings are published, you'll have a complete list.

Following the recording phase, the group would go thru the entire list one at a time clarifying meanings, eliminating any duplication, discussing the pros and cons, etc. Then, in the fourth, and final phase, the group would vote on the items they felt were most important. The voting is done according to a very well developed system which I'll demonstrate in a minute. The result would be a rank order list of barriers or obstacles to change at your institution. Very briefly, that's an overview of the Nominal Group Process. You have a two page handout which gives you a brief outline of it and the reference cited at the bottom provides a full explanation. It has many uses. Most recently I used it to assist a college to determine general education goals.

To acquaint you with the voting process and to see how this group rates the items, take out a second 3x5 card. Now, using the following as an example, select the two items on the list which, in your opinion, represent the two most serious obstacles to change at your college, then complete the card.

First Choice

Item # ____________

Points - 2

Second Choice

Item # ____________

Points - 1

Again, this represents an abbreviated version of the NGT technique. But it should give you an idea.

(When the results of the balloting were tallied, these were the results:

Rank	Item	Points
1	Lack of Time	22
2	Lack of Financial Support	23
3	Lack of Good Communication	18
4	Change Itself	16
5	Lack of Good Internal Assistance	14)

Thus far, I have 1) described what I mean by effective instructional change; 2) provided several reasons why instructional change is needed; and 3) identified the more crucial obstacles to change. Now I would like to shift to the last part of my remarks--that of overcoming the previously identified barriers to change.

Once you, using the nominal group process or some other technique, determine barriers or obstacles to change in your institution, what do you do about them? Rather than attempt to offer some general suggestions which sound great in theory, but may not work in practice, I'd like to acquaint you with a problem solving technique which I think you can use back on your own campus to help you remove or overcome the barriers which you have identified. The problem solving strategy which I want to share with you works. I've used it myself and I've assisted institutions to use it. Very simply, it is a seven-step problem solving procedure built around the work of Kurt Lewin. Back in 1947, he first advanced the concept that any situation in which change is to be attempted may be viewed as a dynamic balance of forces working in opposite directions. One set of forces moves the situation in the direction of desired change while an opposite set of forces tend to restrain, or keep the situation from moving in the direction of the desired change.

My prescription for change is quite simple. Using NGT, identify the obstacles or barriers to change and then, using the problem solving procedure described in a booklet I've written, analyze the forces for and against those barriers and arrive at a solution. (At this point, Dr. Hammons referred participants to the self-instructional booklet he has written which both explains the process and provides an example of its use.)

Before concluding, I want to make a few remarks about the single most important element in causing effective instructional change--namely--the role of the administration. Based on my own personal experience and what I have observed elsewhere I can say that lasting, effective instructional change occurs if, and only if, the administration wants it to happen. No, I am not saying that it is the administration who implements change in the classroom. That can be done only by the individual faculty member. However, if the administration has not budgeted to facilitate change, has not gone on record as supporting change and does not show that it can recognize and reward effective instructional change efforts, change will not occur.

In closing, I'm reminded of a statement I made at this same conference three years ago in which I observed that, if history is any indicator of the future, the community college of 2052 will no more resemble the community college of 1976 than the community college of 1976 resembles the junior college of 1901. I'm now convinced that I made a significant mistake--I should have stated "The Community College of 2052 should no more resemble the community college of 2076 than the community college of 1976 should resemble the junior college of 1901.

A PRODUCTIVE PAST; A PERPLEXING PRESENT - WHERE DO WE GO FROM HERE?

Dr. Edmund Gleazer

President
American Association of Junior and Community Colleges
Washington, D.C.

Dr. Edmund Gleazer International Institute, 1976

Well, I have a formidable task, it seems to me, particularly after that introduction and the lovely meal we've had. I'm not an expert in economic theory and I'll tell you why, because it relates to the hour we're meeting at this afternoon. I took a course in Economic Theory at UCLA a long time ago and the course was at 1 o'clock in the afternoon. The instructor had a heavy German accent, the textbook was by a fellow name of Marshall who was an English writer, somewhat abstruse, I thought, but particularly the problem was that 1 o'clock in the afternoon. One of the notable skills I developed, which has served me very well on subsequent occasions, was to learn to sleep with my eyes open. I'm sure most of you have become adept at that, too. But, I hope I'll have your attention; this is going to be short and informal, and I hope we can talk a little rather than just have this a one-way process.

Now, I had a number of pages here of beautiful rhetoric, I thought, about the international aspects of this Institute and the fact that AACJC is delighted to be associated with Lambton College and with the Canadian Association of Community Colleges. I was going to tell you some of the things that were happening internationally that I think have decided implications for our work, but I'm going to skip that - I've got it in manuscript form and I'll be glad to give it to the editor of the proceedings. I would like to say that I think this is great, this kind of an international, bi-national Institute, and we need to do more of it.

I'm like the rest of you. I'm trying to figure out what the world is going to be like and what the world has become. I'm trying to figure out how the world should change and what part we should have in changing that world. And I think we can have a significant part.

I wrote some letters the other day that went to members of state legislatures throughout the U.S. and called their attention to some of the great problems that I thought we are experiencing in the educational field. I got back some very good letters. One of them brings me to the point that I'm talking about right now. Because one letter from a very distinguished state legislator, in a very populous state, said, "Ed, I agree with you; there's a problem. What shall we do about it?".

We seem to be very adept lots of times at ringing the bells and sounding the alarms and saying, "Hey, there's a problem!". Then, when somebody says to us, "Okay I hear you. What shall we do about it!", I think we as people in the educational community need to be able to respond to questions like those. I would like to think that education is important enough in our two countries that we will have increasing opportunity to make some kinds of policy. I think we've got to, and that's the reason I'm trying to think some things through. In fact, I'm trying to change my schedule in such a way over the next several months that I'll have time to think, time to do some disciplined writing, and to respond to invitations such as the one I've just described to you.

What does lie ahead? What do we see? I've been talking to some of you while I've been here and certainly I think we need to recognize that we're talking about two different countries; however, I am struck by the similarity and I think those things we have in common, the similarities, are much more pronounced than the differences. Some of the things I'll say today come from my particular vantage point, the context in which I do my work. I'm going to let you make some of those adaptations. I'm not going to take the time to say "In the U.S. we do this, and we're having this experienc and I'm sure in Canada.....". I'm going to try to be a little broader than that.

What do we see ahead? What do we need to be concerned about? What are the possibilities out there? What should our attitudes be? Sometimes I hear college presidents say, "It's just not any fun any more." Well, is that the way you feel about your job? Is that the way you feel about your teaching job? If so, I think we've got some real concerns on our hands because I think one of the distinctive features of the movement with which we've been identified has been the enthusiasm for it. We have felt that what we are doing is extremely valuable and worthwhile and there has been a sense of being identified with a movement, a social cause of some significance. Now, sometimes people will say, "Get down off your soapbox; life's not like that any more." But I'm saying that if we lose that kind of vitality, if we lose that kind of enthusiasm, that kind of commitment to the cause, we're in for some bad times. And we're going to find that other movements are going to develop with more vitality, and people identified with them. They're going to have a zest to them, and they're going to take over many of the responsibilities we now carry.

I was invited to do an essay for Change magazine several months ago - to take a look ahead to the year 2000, and at education, and to try to describe it as I might see it. Well, in order to do that, I tried to take a look back 25 years. We were talking about 25 years ahead; I thought it would be significant, at least in my own thinking, to establish my own framework and line of thought if I could look that far back. Some of you young people might be surprised at how fast 25 years go by. I've been in Washington now working with the Association for almost 20 years, and I can look back 25 years and be personally identified with many of these happenings. Think of a few of them.

In our country 30 years ago there was a G.I. bill. And the G.I. bill was probably one of the most significant social developments in the whole history of the United States of America because of the implications of providing educational opportunity and social and economic mobility for millions upon millions of people who hadn't had that opportunity before. The intensive development of community colleges in the U.S. has taken place since about 1955-56. Television, which we take so much for granted now, was just being initiated 25 years ago. The development of urbanization in our country. The Civil rights movement. So many of these dramatic, revolutionary developments can be identified looking back just a relatively short period of time, just 25 years.

Now some people might say, it's all done now. You know, the way they proposed a hundred years ago that the Patent Office be closed because nothing else of significanc was going to be invented.

It's all been done now. We've gone through the 25 years and there have been some remarkable developments; surely the next 25 years can't be nearly as important. Inci entally, those last 25 years were described by one writer in the London Economist as representing greater positive change than any single 25-year period in history. But that same writer looked for the next 25 years to be of at least equal significance.

What lies ahead? What are we getting into? I understand you've had at least one futurist meet with you here, and I read with great interest the predictions made by futurists, but some of them are losing their credibility. There does seem to be a decline in the reputation of authorities. I participated in a White House conference on the economic state of the nation a year or so ago, and I was struck by the economic authorities that talked to that group. Here were people who were well known in their field, people of great reputation, but they differed among each other, extremely. Now here's authority speaking. Well, who do you look to? Who really describes things as they are, or as they ought to be? We'll go along and something will come that's absolutely unlooked for, like the elevation of oil prices, and all at once the whole world is upset. Nobody had predicted this, nobody had anticipated that; what else is there out there in our society now coming up over the horizon that might be an equally significant factor and throw off all the projections we have made.

So, what do we do then about planning? Isn't it true that the most important thing we need to do as we look ahead is for each institution to try to build in itself what might be described as a sensing capacity and a capacity for adaptability. That is, some kind of a sensing mechanism so that we have a sense of what's going on, a sensitivity to what's developing out there in the universe, in the environment. Some way, too, of deriving or perceiving meaning out of those developments. And then some way of responding quickly, of adapting to these kinds of changes.

This is true, it seems to me, not only of institutions but it needs to be true of individuals as well. I guess it's the kind of capacity possessed. I've heard it said, by cats. I don't know whether it's true or not, that if you throw a cat up in the air, the cat will land on its feet.

Somehow, when we're tossed up in the air as institutions or as people, we need to develop this kind of capacity to land on our feet, this kind of adaptability. The Carnegie Foundation for the Advancement of Teaching, in its statement not so long ago called "More Than Survival", said some things along this line about public community colleges. It said, "Public community colleges have substantial growth prospects, but also their sense of realism and their sensitivity to external changes contrast sharply with that demonstrated by many institutions in other categories." We need to maintain the capacity to take initiative and to act quickly because the future is uncertain.

Now the future has always been uncertain. But it's probably even more uncertain as we look ahead. We know change is going to be continuous; the secret of it all is going to be somehow or another a sensing capacity to be aware of change and then the capability within the institution to make the necessary adaptations. Or, even better, to be a little bit ahead so it's just not a matter always of responding but being able to take creative initiative as well. Now, I could say that there are two or three things occurring in society that concern me about some of those things. I've seen the development in some of our institutions of a formalism, an organization of kind of power block within the institution, in such a way that it becomes increasingly difficult for the institution to be flexible and to quickly adapt to changing circumstances. And I think all of us need to be aware of that problem.

I'm aware, too, of the shifting locus of power decision-making away from the local area, sometimes to state or provincial levels, with more and more decisions concerning the college being made at a distance away from the college. Some of these things concern me; its a matter of another presentation and I'll not take the time.

As I look ahead, one of the most exciting things I can see is the fact that the notion is now catching on of life-long learning. And I think this has decided and marked implications for what we're about. To give you an illustration of how things are changing, it used to be when you got out of high school and you had some money, or you got out of prep school and you had some money, or you got out of college, you went on what was called The Grand Tour. You made a tour of Europe and it was thought at that time that this was a once-in-a-lifetime-thing - this one grand tour of Europe. I remember in 1956 going abroad for the first time, and my father, who was brought up in that old school said, "Well, it's a chance in a lifetime; you'd better do it." Well, you know how it is now. Anybody catches a plane for Tahiti or wherever it might be, anytime they feel like it.

Now, I think the same thing is happening with regard to education and learning. It used to be considered a once-in-a-lifetime proposition. Our commencement ceremonie and convocations are still built around that idea. We deck people out in academic regalia, we shed copious tears, we say - I guess we still do - good-bye with the thought that we're never going to see these people again. Instead of that, I think the idea is gradually taking hold that community colleges particularly are something like public libraries. When the librarian checks out a book to you the librarian expects to see you again. Repeatedly, every time you have an interest you want to follow up, a line of thought, a curiosity, you want to check out a book. Increasingly I see this happening with regard to our institutions. These institutions are becoming community educational resource centers to be utilized by people throughout their lives And I think this notion is finally catching on.

Now, if this is the case, we've got some tall thinking to do. What is appropriate for the immediate post-high school years? If people are indeed going to engage in recurrent education, if learning is indeed going to be life-long, how do we approach this as we work with students in these immediate after high school years? Do we convey information? I think there's going to be a decided reduction in the kind of information we convey because most teachers are very inadequate in the ways they convey information. It can be much better done through other means - some of those were referred to this morning. And, besides that, a few years from now when a person begins to use that information he's going to find it inadequate, he's going to find it obsolete, just not true, in those times. And yet when I went to my undergraduate years in college, a great deal of the time was spent on a conveyance of information. Well, if we don't convey information to students, what in the world are we going to do with them?

What about somehow trying to stimulate a capacity to continue learning? What about working with students in such a way that when they have a problem, or a question, or a need, first of all they learn how to identify that problem. To state the question; that's one of the toughest things, as all of you know. Now, precisely, what's the question? And, then, if you've got the question, what are the steps you take toward solution? Where can you go for help? Where are the information resources that you utilize? Now, what implications would this have with regard to the ways in which we're going to be working with our students. To encourage and develop the capacity to continue learning.

I see some definite changes coming with respect to job preparation in relation to the job. I don't know whether you've seen that study yet or not, but there's a new study reported on just a few months ago that almost half of the college graduates wind up in fields they had not planned to enter as seniors. That two-thirds of the graduates working as business administrators did not major in business. That four-fifths of the teachers did not major in education.

We know that there's no assurance that a specific job will be available to the individual when he's completed his training. We have right now in the United States a particularly tough situation - I liken it to having a hurricane at high tide.

If you're going to have a hurricane, don't have it at high tide because you're really going to have some devastating problems. Right now we've got a wave of college graduates coming out of our institutions into a depressed economy. A result of this is a great dis-illusionment with the values of a college education, because this college education is not serving as a guarantee to a job.

I don't know how it is in Canada, but I'll tell you that in the U.S. I don't think the job market has any possibilities of expanding enough over the next 25 years to accommodate all the people who are going to be coming out of college and universities with the hope that somehow or another they're going to have that specific job for which they trained in the institution. Barring the great development of capital resources that I don't see coming now, the great development of our economies, I don't see this happening. Well, this is going to have some decided implications. We're going to have still a lot of people who are going to be seeking jobs, seeking occupations, but they're going to have to develop the ability to move horizontally, an adaptablity to move into other fields.

I've got a beautiful example of that, I think, in my own family. We have two sons, Alan and John. Alan graduated from the University of Michigan in mathematics and computers and he worked for quite a while as a computer expert and software consultant in his own freelance operation. One of his primary clients was Wells Fargo Bank in San Francisco. He did very well. Well, Alan has gradually become interested in acquiring Victorian houses, old Victorian houses in San Francisco that need renovation. He started doing that; he and his wife Marcia bought a house, and they renovated and sold it after doing a lot of work on it. And then they got another one, and so on. Now, he's finding out this is much more interesting to him than the work he was doing with computers and with Wells Fargo Bank. He's learning now all about real estate laws; he's learning about financing; he's learning how you get 95% financing for properties; how you deal with people; and how you give notice to renters. He's doing all of these things and enjoying it. And yet, he's using his professional training. So many of the things that he learned to do in his computer work and mathematics in the way of logical and systematic attack on problems are serving him well, but he's moved over.

Here's son John. John has a degree in Anthropology. But, what's he doing? He's a cabinet maker. He's greatly enjoying cabinet making, just as happy as he can be; he's continuing his work, his anthropology, but anthropology has become his avocation; it's become another interest, and he's making his money, he's supporting himself through doing some very fine work in cabinet making.

The ability to move horizontally, to be adaptable. How many of you right here are doing precisely what you were trained to do in your college programs. I think there are some real implications here. Will the job, THE JOB, be as dominant in the life of the individual as it has been in the past. In our cultures, in times past, it's been the job that to a great extent has determined where we are going to live, determined the people that we associated with, it's determined our educational program, dominates our family life, confers upon us a sense of self worth. People come up to you and after they ask your name they're not nearly as interested in that, as what's the next question, what do you do? And they're not talking about what do you do avocationally, they're talking about what is your job.

Well, if we look ahead and see that we're going to have the kind of economy that's not going to be able to accommodate people in the jobs for which they were specifically trained, what is the meaning for us of this? I see more and more young people these days who feel that even though a job is important, and I've got to have some money, at the same time the job is just one part of my life, and I've got other things I want to do with my life as well.

This leads to something else, then. If this is true, and this is my reading of the situation as I listen to an awful lot of people these days, then we must turn our attention to something else. Rather than preparing people specifically for jobs, we should think more broadly in terms of preparing people for their vocation, their vocation, their calling, what do they do with their lives. And the job is a part of that and is a significant part of it, but it is part, and it is not all consuming.

How do people find fulfillment and enjoyment in the sense of being a productive individual, with a job as just one element in a person's life? I'd like to see a faculty examine the implications of that kind of thinking for the program of a college

There's another thing that's happening that promotes the concept of life-long learning. It's called mandated continuing education. People are going to be forced to continue education, of various kinds. We have in the United States a program that is called OSHA - Occupational Safety and Health Act. And what it means is that for the working environment there are certain requirements that have to be met with regard to the well-being and the safety and the health of the worker. This is a very, very important legislative provision. And both management and labour are greatly concerned about how this is being enforced. What it means is that people in the plants and in the business establishments throughout the country have to be trained to administer the provisions of OSHA. And AACJC now has a contract with the Department of Labour, and involving some 20 community colleges, whereby 48,000 people are being trained in these community colleges this next year, to administer the provisions of OSHA.

That's just a small sample. There's need for hundreds of thousands of people to be trained in this field. It opens up an educational market. The creation of the Environmental Protection Agency has resulted in creating vast new markets for short-term educational training programs. You know, if you are a farmer in the United States now, or if you're responsible for the utilization of pesticides or insecticides you have to have a short-term training program - 5 hours of training - in order to be able to produce a certificate allowing you to purchase insecticides and pesticides and utilize them in the agricultural situation.

Many of our community colleges are getting involved in providing these short-term training programs. EPA, the Environmental Protection Act, has greatly upgraded the level of quality that is being required now in water treatment plants across the country. And this results in the need for development of short-term training for technicians. Here's another market that opens up.

In the fields of medicine and nursing and insurance and real estate, the field of hearing-aid fitters and distributors - in all of these continuing education is being mandated. And, as a result of this, the educational market continues to grow and people get interested in life-long learning. Consumer education in medicine and health and drug abuse and obesity and alcoholism; I could go on and on. What I'm saying is life-long learning as a concept is being realized and it has the most tremendous implications for our institutions and how we're organized, how we proceed.

Let me mention just two or three other educational needs. What about counselling in the community - and let me mention, particularly, two age groups. Do you know that in our culture we have no good way for youth to pass from youth into adulthood. In other societies there are what are called rites of passage. Society provides for some meaningful activity by which a young person crosses that threshold into adulthood. Many of our schools and colleges have had this kind of responsibility thrust upon them. Probably many millions of young people are not ready or don't want to have that kind of opportunity in schools, but we've not provided a suitable alternative. Let a young person try to get a job. Well, you can get in the military, perhaps. But the options that are available to you are very, very limited. Now, until society provides an alternative, a good socially useful alternative, we're going to continue as community colleges to have this as one of our primary opportunities. You might say, this young person is not ready for college - what are you going to do with that young person? What's society going to do with that young person, that age group, 17 to 21, or even the age group 14 to 17? No good provisions are made by our society, our western society, for this transition into adulthood.

It seems to me that community colleges, being in the communities and having the kind of relationships they do with the homes of people, the kinds of relationships they do with other agencies and organizations that have a bearing upon the life of that young individual, have a particular opportunity here to be of assistance. Now, it may not be a direct and formal educational program. It may be some kind of a counselling program. It may be some kind of a placement service. The need is to work with that young person in such a way that these can become productive formative years and have some contact with that young person in the community until that person is say, 21, 25 years of age, whatever it might be.

I think it is a great social need which has not been sufficiently acknowledged and to which community colleges could respond. Now, I know you talk in terms of financing problems and so on, but that's a technicality. Leave that to one side now. We're talking now about needs, educational needs in our community, and I say this is one of the great ones.

Counselling. There are people who throughout their lives need counselling services that we're not providing now. But, let me tell you another very important age group. It's the age group from say 55 to 60 on up. Here, again, we have the rites of passage problem - here again we've got a new situation. We've got people who are living longer, older people, active, in good health, and society in effect says to them, "you're no good any more, we have no place for you." United Auto Workers says, 30 years and out, buster. So, you're 48 years of age. You've been working in an automobile plant since you were 18, and what do you do now? And society has little place for you.

Now, some of our community colleges are responding to this need in the way of counselling, pre-retirement counselling, in the way of making significant learning opportunities available - but here, I think, is a need which is equally significant to that for the rites of passage at age 14 to 21. I say it's an educational need that exists in our society - somebody is going to respond to it some day.

Community colleges are in a position to do so.

Now, you may say some of these needs aren't strictly educational. Well, I'd have to talk with you about how you define education. I'm talking about learning needs. I used to live in a small town, and I remember we used to have in that town what they called the 'spit and argue bench'. This was located right at the crossroads of Main and Linden Streets, and some of the senior citizens of the town, every day, would go up to the spit and argue bench and they would sit there and talk with each other and discuss the state of the world. They'd watch people go by, they'd make comments, undoubtedly, after the people went by, evaluations and so on; that spit and argue bench was providing a very important social need. We don't have those spit and argue benches in many of our communities any more, and some of our community colleges now are providing a place and a reason for people to come together, to have a sense of worth, a sense of value, to participate, and many of them have gotten into various kinds of volunteer opportunities as the result of this. You say, it's not strictly education. I say, there are learning needs there that need to be looked to very carefully by institutions that consider themselves community-oriented.

Well, I could go ahead and talk in terms of the fields of health, and corrections, air and water pollution, energy sources and use, transportation - what I'm saying is that almost every social and economic problem that we confront as a society has an educational component that needs to be identified, that needs to be examined, looked at in terms of the kinds of contributions that institutions like ours can make.

Just let me say that one of the other great needs as I see it has to do with the education of people for citizen participation, for group participation. I've already said that one of the problems that concerns me in our society is the way the locus of decision making is moving out of our local community. The shots are being called elsewhere - for those things that are going to have an impact upon us and our lives. Somehow or another we need to establish citizen involvement networks, we need to further stimulate the citizen to assume his responsibility for civic participation, to carry his share of the load, to have something to do with the decisions that are going to affect him. That is going to take learning. That is going to take training and education. The community college in many areas now is in the best position of an educational institution to respond to this kind of a need.

How are we going to do it?

Very quickly, we're going to have to disperse our services. About 20 years ago when I was working with a number of states in establishing community college networks, we said something like this: this state's going to establish a community college within commuting distance of every citizen in this state - Florida, Michigan, California. But, you notice the interesting thing about that statement? And the thing that I think is out of date now? What was it? Commuting distance! Precisely. What we're saying now is the educational services of this institution will be made available to people where they are.

So, I see more and more dispersal of services, more and more community-based educational programs, utilization of the technology, the personnel, the places for learning, that are available out there in the community.

You've already talked, I think, about the utilization of modules, about continuou registration, about instructional packages, about self-paced learning, and performanc criteria. I see the elimination of hours served as if it were a sentence. We have t look more and more toward mastery and variable time, utilization of all community resources, the people, the libraries, the parks, the playgrounds, the schools, the businesses, the industrial plants, the banks, museums, community theatres, - I see us more and more working with other agencies and organizations, the community schools, with the unions, with extension services of universities, with manpower agencies.

I've had to go through this very quickly. Let me come to my conclusion. I feel very seriously that we in the community college field need to come up with a new perception of what our institutions are. That we tend to define our institutions too narrowly. That one of our primary responsibilities is in the field of community development. That we are to be looked to as a community resource. Not to be just a sli of higher education - two years of higher education.

If we look upon it like that we're always going to be low man on the totem pole, because we put ourselves in a hierarchy that has as its culmination graduate school and the PhD. And, we're this little slice way down here, which may lead to something else, and if it doesn't, there's a sense of incompleteness - that something's wrong. If we look instead upon our institutions as being educational resource centers for the community, with this work in higher education as just part of our responsibility, it gives us, I think, a different perception of ourselves, and a much greater value.

The emphasis is upon learning, any time, any where, not upon degree credits and upon the semesters completed. If we're going to move like this, we may come up to a different kind of organizational format. We may have a vice-president for family development services in the community; we may have a vice-president for institutional services in the community, or for career development services in the community.

Recently we addressed a resolution adopted by the Association to all the governors and state legislatures in the United States, and I've been getting some interesting responses. One thing we said was that the doors to educational opportunity must be kept open. Community colleges are growing, still growing, by leaps and bounds, but the problem now is with limited funding. We're finding that the doors are closing in some of our states. And this could be devastating to educational opportunity. Let me read just a word about this. "Community colleges are not institutions for the young only; they are community resource centers to be used throughout every citizen's lifetime. They should be assessed in terms of responsiveness to community needs and the number of persons served. Services offered must be as broad as community and human needs. The danger is that priority decisions concerning community colleges will be based on out-of-date information on perceptions of what the community college was like and what the world was like 15 or 20 years ago."

Now, I'm a community college advocate. But I hope I'd be much more than that. I think I'm an informed citizen, of my country and of my community. And as I've travelled across this country, and I don't know anybody who has visited more community colleges than I've had the chance to do over the last 20 years, I've seen what has happened in the lives of all kinds of people as the result of educational opportunity I've listened to these people, I've observed them, I've seen them in the classes and i the community, and in the shops. I've seen so many people trying to become more than they had been, or more than their parents were. I've seen them growing and becoming more confident and becoming contributing citizens.

And the way I feel about it - this kind of educational capacity and this kind of educational interest - is that it is the nation's finest resource. But, somehow, now we're talking about cutting back on that resource. In effect, destroying that kind of resource. Willard Wertz wrote a book just a few months ago called The Boundless Resource, and that's what he was talking about - this kind of human potential. I say we cannot permit these gains to be lost. And in our kinds of institutions, in community colleges, we're probably most sensitive to this kind of danger because ours have been democracy's colleges. They have, indeed, been people's colleges. And I think the great threat now is not only to our colleges. It's to the level of aspiration, the hope for fulfillment that they represent, the means for economic and socia mobility. And I think that it's ironic that in the United States of America, celebra ing its Bi-centennial, this kind of threat faces our institutions. It's a threat tha really been brought on by success. The institutions have opened the doors, and yet a the present time those doors may be closing because of what we consider to be our limited financial means.

I say we will never have greater financial means or resources unless somehow we can continue to develop the human potential.

Well, that's the cause I'm in, that's the way I see the world shaping up. Our job isn't done. The foundation has been built; I think we know what we're about. We've got to do a better job of interpreting to policy-makers. We've got to change the policy framework so it fits these worthy functions.

I'm pleased to be associated with you in what I think is a most worthwhile cause. Thank you.

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